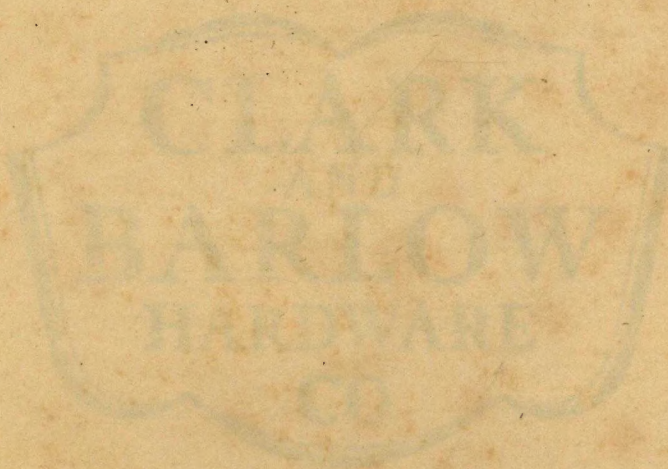




CHICAGO

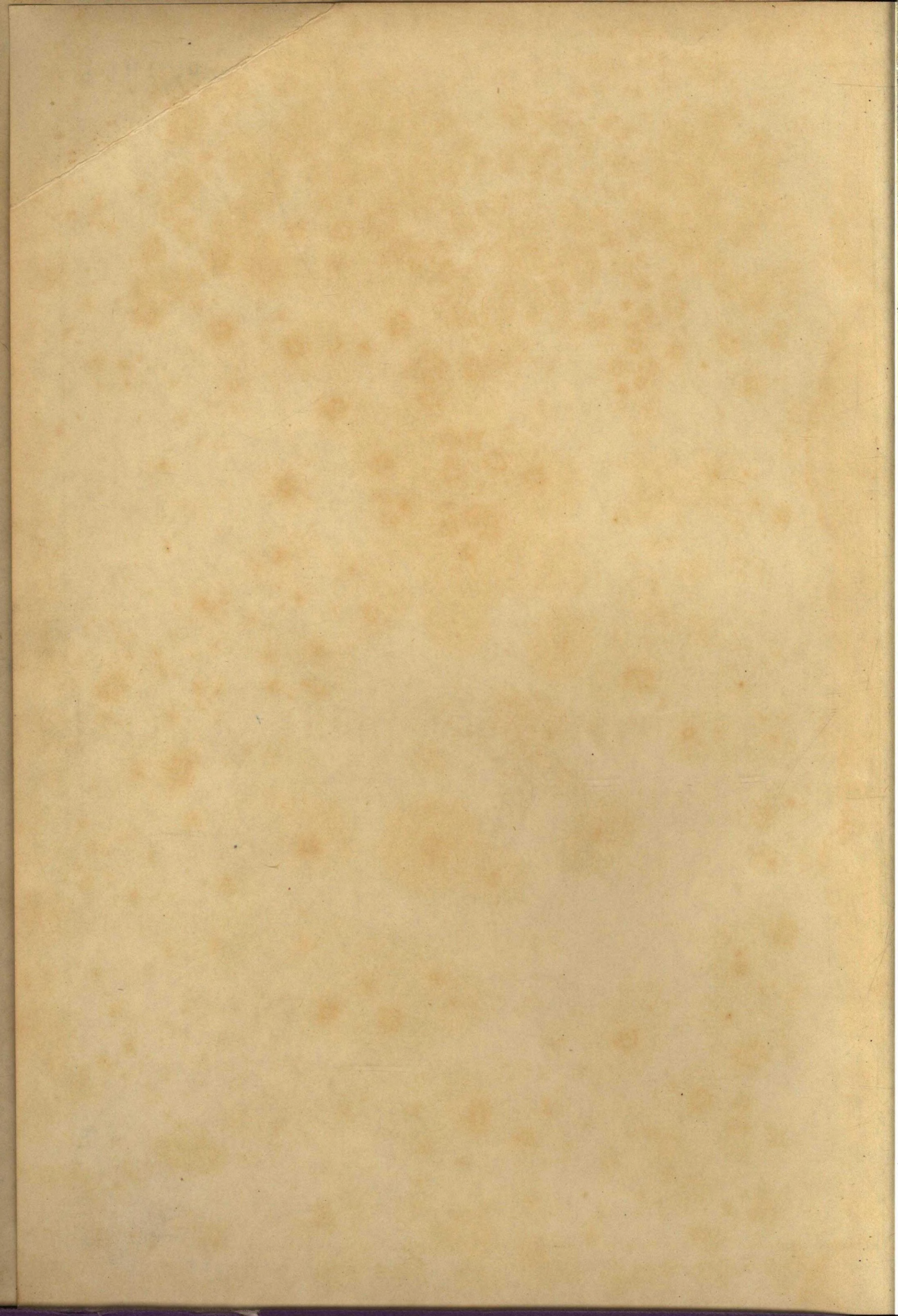
MAR 29 1956



Wholesale Distributor
of
Industrial Supplies
Contractors Equipment
Builders Hardware
and Tools

123 W. Lake Street
CHICAGO 5, ILLINOIS

MAR 29 1956



CATALOG G



Wholesale Distributor
of
Industrial Supplies
Contractors Equipment
Builders Hardware
and Tools

•
123 West Lake Street
CHICAGO 1, ILLINOIS

INTRODUCTION

Large and diversified as our stock of merchandise is, it is impossible to give a complete listing of the various Tool, Machinery and Supply Lines we have, however, cataloged the most frequently called for items.

While we have not listed what might be termed the "slower sellers," we carry in stock a vast number of articles kindred to those we have shown. Our manufacturing connections enable us to supply your requirements within the range of our diversified business. All data and general information contained in this catalog has been corrected to date of publication and is, to the best of our knowledge, authentic, but we cannot be held responsible for errors which may occur in using this book as a reference when estimating work, etc.

ORDERS

Emergency orders will have special attention. In such cases please list a second choice or instruct us to substitute if necessary. All orders, except those for special articles, will be shipped on the day they are received.

To insure accuracy, customers are urged to specify catalog number and sizes whenever possible.

PRICES

The prices are standard list prices subject to varying discounts. Discounts change with the market.

All quotations are F.O.B. Chicago, unless otherwise agreed upon.

TERMS

Our terms to responsible firms or individuals are thirty days from date of invoice, with a premium of 2% if paid within ten days of said date.

Customers not rated in a Commercial Agency's records must give at least three references with the first order.

C.O.D.

We do not make C.O.D. or Sight Draft Bill of Lading shipments unless the order is accompanied with a remittance amounting to 25% of the invoice value.

RETURNING OF GOODS

Customers are requested to return no goods to us without first securing our consent. If this is given, mark shipment plainly with sender's name and address and mail to us the Bill of Lading or Express receipt.

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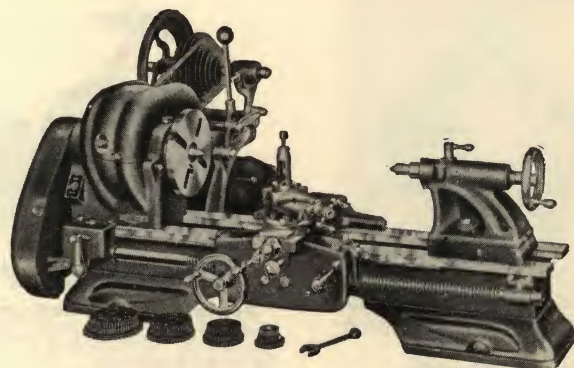
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F Series Atlas 10-Inch Backgeared Screw Cutting Lathes**With Horizontal Countershaft—Bench Type—Motor Driven**

For use in the production line and toolroom. Has accuracy for the finest tool work, strength and power for heavy jobs, rugged materials and large bearing surfaces for long service life under continuous production schedules.

Capacity. Swing over bed, 10 inches. Swing over carriage, 5 $\frac{7}{8}$ inches. Threading range, 4 to 96 standard, right or left hand; metric, .5 to 7 mm. Collet capacity, $\frac{1}{2}$ inch.

Speeds and Feeds. Number of spindle speeds, 16 (8 direct, 8 backgeared). Speeds, 28, 45, 70, 83, 112, 134, 164, 211, 266, 345, 418, 500, 685, 805, 1270 and 2072 rpm. Feeds, left or right, inches per revolution of spindle, .0104, .0087, .0070, .0060, .0050, .0035 or .001877. Lead screw, $\frac{3}{4}$ inch in diameter, and 8 Acme threads per inch.

Headstock. Spindle nose, 1 $\frac{1}{2}$ inches in diameter, 8 pitch National Form threads. Spindle nose taper, bored for No. 3 Morse taper with reducing sleeve to take No. 2 Morse taper. Hole through spindle, $\frac{25}{32}$ inch. Back gears, 12 pitch, $\frac{7}{8}$ inch wide. Backgear ratio, 6 to 1. Spindle gear, 16 pitch, 32 teeth, and $\frac{7}{8}$ inch wide.

Carriage. Cross feed travel, 6 $\frac{1}{2}$ inches. Cross feed screw, $\frac{1}{2}$ inch in diameter, Acme threads. Tool post slide travel, 2 $\frac{1}{4}$ inches.

Tailstock. Tailstock ram, 1 $\frac{1}{8}$ inches in diameter, bored for No. 2 Morse taper. Tailstock ram travel, 2 $\frac{3}{4}$ inches. Tailstock ram graduations, 0 to 3 inches, by $\frac{1}{16}$ ths. Tailstock set-over, forward or back, $\frac{3}{4}$ inch.

Drive unit. Motor recommended, $\frac{1}{8}$ or $\frac{1}{2}$ hp., 1725 rpm., mounted on adjustable base. Hole through motor pulley, $\frac{5}{8}$ inch in diameter. V-belt for complete drive.

Equipment. Reversible automatic power cross feed and longitudinal feed; graduated compound rest; tool post, ring and rocker; change gears to cut standard threads from 4 to 96 per inch and standard metric threads from .5 to 7 mm.; threading chart and dial; quick-change countershaft with motor mounting bracket; complete V-belt drive; motor pulley; 60-hole indexing mechanism; 6-inch face plate; two 60° lathe centers; reducing sleeve for headstock center; wrench; and instruction book.

Specifications and Prices**Timken Equipped**

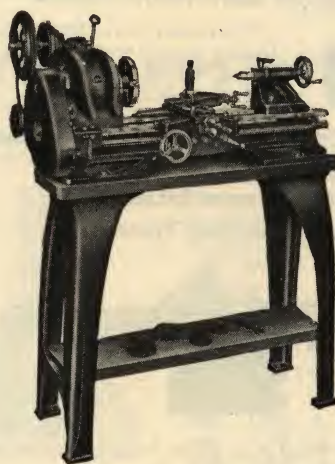
No.	TH42	TH54
Each	\$243.50	275.00
Length Bed.....inches	42	54
Overall Length.....inches	46	58
Between Centers.....inches	24	36
Weight.....pounds	270	305

Motor Recommendations**Ball Bearings—60 Cycles—1725 RPM**

For average duty, use No. 2730 or No. 2831 motor. For heavy duty, use No. 2720 or No. 2821 motor.

Single-end shaft, $\frac{5}{8}$ inch.

	2730	2720	2821	2831
No.				
Each	\$39.65	47.90	46.00	38.10
Hp.	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{8}$
Volts	110/220	110/220	220/440	220/440
No. of Phases	1	1	3	3
Weight.....pounds	28	32	32	26

Atlas Floor Stands**For 10-Inch Lathes, Vertical Countershaft**

No.	10D-442B	10D-442D
Each	\$46.00	49.50
For Lathe No.	V42, TV42	V54, TV54
Weight.....lb.	155	165

Floor Legs Only

No. 6610, Weight per Set, 110 Lb.....per set of 4 \$33.85

For 10-Inch Lathes, Horizontal Countershaft

No.	10F-442B	10F-442D
Each	\$48.50	52.00
For Lathe No.	H42, TH42	H54, TH54
Weight.....lb.	166	176

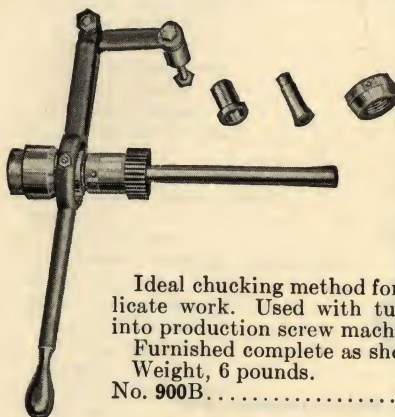
Floor Legs Only

No. 10F-441, Weight per Set, 110 Lb.....per set of 4 \$36.25

F Series Atlas 10-Inch Backgeared Screw Cutting Lathe Attachments

Atlas Collet Chuck Attachments

No. 900B—Lever Type

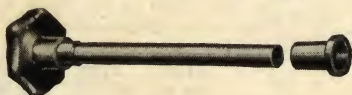


Ideal chucking method for fast, accurate, duplicate work. Used with turret, converts lathe into production screw machine.

Furnished complete as shown less collet.

Weight, 6 pounds.
No. 900B.....each \$65.50

No. 750—Draw-In Type



For making precision tools, instruments, gages, highly accurate small parts.

Furnished complete with draw-in spindle, tapered closing sleeve less split holding collet.

Weight, 3 pounds.
No. 750.....each \$23.75

No. 751 Split Holding Collets



For round work. Available in the following diameters, $\frac{1}{32}$, $\frac{1}{16}$, $\frac{3}{32}$, $\frac{1}{8}$, $\frac{5}{32}$, $\frac{3}{16}$, $\frac{7}{32}$, $\frac{1}{4}$, $\frac{9}{32}$, $\frac{5}{16}$, $\frac{11}{32}$, $\frac{3}{8}$, $\frac{13}{32}$, $\frac{7}{16}$, $\frac{15}{32}$, and $\frac{1}{2}$ inch.

Weight, 4 ounces.

No. 751.....each \$4.50

Atlas Turret Attachments

Tailstock Turrets

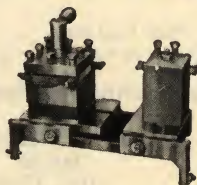


Has indexing head and extra long feed ram with hand-lever control and depth stop screws.

Weight, 39 pounds.

No. 600, with Head Finished-Bored.....each \$82.50
No. 600A, with Head Unbored.....each 75.50

No. 670 Complete Carriage Turrets

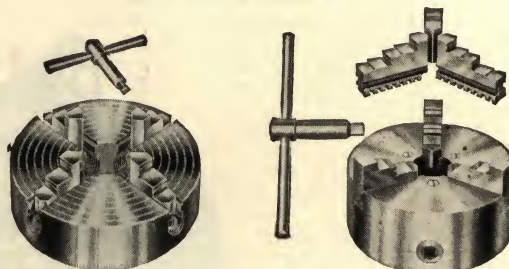


Has double tool cross slide, 4-way turret, and back slide tool post. Cutter bits not furnished.

Weight, 22 pounds.

No. 670.....each \$65.50

Atlas Chucks



Independent Type

Universal Type

No. 6606 6-Inch Medium-Duty Independent Chucks

Body threaded for 10-inch lathe spindle. Furnished complete with wrench.

Weight, 10 pounds.

No. 6606.....each \$33.50

No. 10-885B 8-Inch Light-Duty Independent Chucks

Body threaded for 10-inch lathe spindle. Furnished complete with wrench.

Weight, 16 pounds

No. 10-885-B.....each \$34.00

No. B-435 5-Inch Medium-Duty Universal Chucks

Body threaded for 10-inch lathe spindle. Furnished complete with two sets of jaws (inside and outside) and wrench.

Weight, $8\frac{1}{2}$ pounds.

No. B-435.....each \$37.95

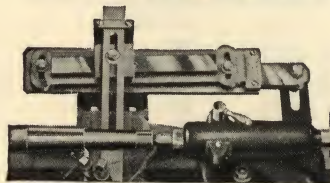
No. 10-795B 6-Inch Heavy-Duty Universal Chucks

Complete with two sets of jaws and wrench. Body threaded to fit 10-inch lathe spindle.

Weight, $11\frac{1}{2}$ pounds.

No. 10-795B.....each \$47.50

No. 700 Atlas Toolroom Taper Attachments



For 10-inch lathes.

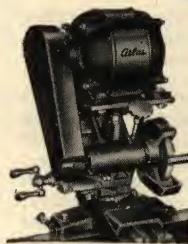
Maximum travel, one setting, $6\frac{1}{2}$ inches.

Range, right or left, 7° $10'$ (3 inches per foot).

Weight, 15 pounds.

No. 700....each \$54.50

No. 10-450 Atlas Grinders



Heavy Duty

Furnished with 2-step balanced pulley, belt; 4-inch external grinding wheel and $\frac{1}{2}$ -inch diameter internal grinding wheel; quill for internal work; diamond dresser; and extension cord and plug.

Weight, 60 pounds.

No. 10-450.....each \$86.00

No. 500A Atlas Milling Attachments



For face milling, cutting keyways, slots, milling dovetails, squaring shafts, making dies and molds, etc.

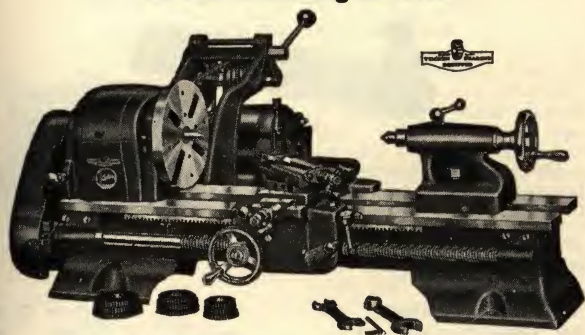
Vertical feed, $3\frac{3}{4}$ inches; cross feed, 5 inches.

Furnished complete as shown, including graduated swivel vise, vertical feed screw with graduated collar, flat block, and V-block for round work.

Weight, 19 pounds.

No. 500A.....each \$28.50

Atlas 6-Inch Back-Geared Screw-Cutting Metal-Working Lathes



This lathe is of modern compact design. Precision lathe work requires accurate alignment of the spindle, tailstock, carriage, and bed ways. In this lathe, the alignment is guaranteed to be within .001 inch.

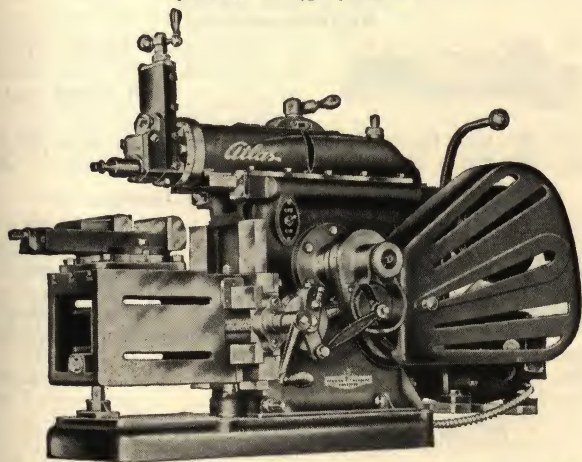
Features: Timken equipped back-geared headstock; 16 speeds, 54 to 3225 rpm.; V-belt drive; wide thread cutting range; precision ground bed ways; 60-hole indexing mechanism.

Equipment furnished: reversible automatic power longitudinal feed; graduated compound rest; tool post, ring and rocker; $\frac{3}{8}$ -inch tool bit; complete set of change gears to cut standard threads between 8 and 96 per inch; threading chart; threading dial; quick-change countershaft; complete V-belt drive. Motor pulley furnished is for $\frac{5}{8}$ -inch diameter motor shaft. Has $5\frac{1}{4}$ -inch combination metal and wood-working face plate; two 60° lathe centers (No. 2 Morse taper for headstock; No. 1 Morse taper for tailstock); 3 wrenches; and instruction folder. Also available with floor stand.

No. 618
Center to Center.....inches 18
Weight.....pounds 100
Each.....\$132.50

Atlas 7-Inch Metalworking Shapers

Operates from $\frac{1}{2}$ -Hp. Motor



For machining small work. Crank-type bull-gear drive, Timken tapered roller bearings, complete V-belt drive.

Has four speeds, 45, 78, 122 and 186 strokes per minute, cutting speeds from $3\frac{1}{2}$ to 116 fpm. and five automatic cross-feeds.

Length stroke, $\frac{1}{2}$ to 7 inches. Horizontal table travel, $9\frac{3}{8}$ inches; vertical, 5 inches. Length overall, 36 inches. Width overall, 17 inches. Height overall from bench base, 26 inches. Height overall with stand, $59\frac{1}{2}$ inches.

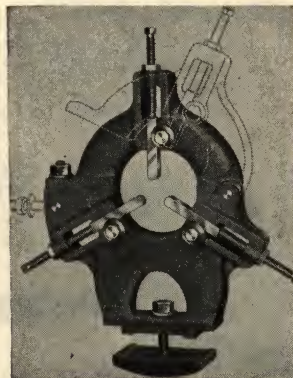
No. 7B, Shaper Complete with Guards, less Motor and Stand, Ship. Wt., 350 Lb.....each \$410.00

No. S7-442C, Shaper Stand, Floor Legs and Table Boards, Ship. Wt., 138 Lb.....each 41.80

No. S7-139, Shaper Tool Holder, with $\frac{1}{4}$ -Inch Tool Bit, Wt., 2 Lb.....each 7.60

No. 2720, $\frac{1}{2}$ -Hp. A.C. Ball Bearing Motor, Weight, 32 Pounds.....each 47.90

No. 10-325A Atlas Steady Rests



For 10-inch lathes.

Clamped to bed ways, serves as rigid work support in turning, boring and threading long pieces.

Frame and base are strong iron castings. Bronze jaws prevent scoring work. Each jaw can be adjusted and locked in position to provide proper work bearing. Top is hinged so that work may be inserted or removed without disturbing jaw settings.

Capacity, $2\frac{7}{8}$ inches diameter.

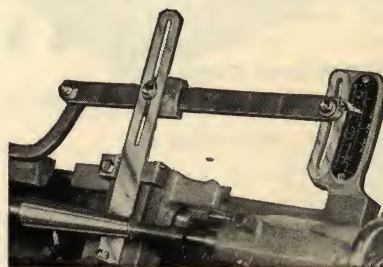
Weight, 5 pounds.

No. 10-325A.....each \$10.00

No. 760 Atlas Taper Attachments

For 10-Inch Lathes

For internal and external taper work. Rectangular slide bar has 2 rigid grey iron bracket supports. Slotted draw bar connects to



carriage cross slide and feeds tool at desired taper.

Easy-to-read index plate is graduated 7° ($2\frac{15}{16}$ inches per foot) and 3 inches both sides of center line.

Maximum travel one setting, 6 inches. Weight, 11 pounds.

No. 760.....each \$26.95

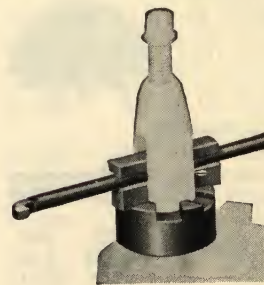
No. 990 Atlas Boring Tool Holders

For 10-Inch Lathes

Rigid support for boring tools. With clamp ring with $1\frac{3}{4}$ -in. o.d. and $1\frac{1}{4}$ -in. i.d.; V-block; plain block and one $\frac{1}{4}$ -in. **high speed** boring tool.

Clamp ring has 3 slots at different heights to hold $\frac{3}{16}$, $\frac{1}{4}$, $\frac{5}{16}$ and $\frac{3}{8}$ -in. diameter tools. Weight, 1 lb.

No. 990.....each \$4.95



Tool No.	Each	Size In.	Descr.	Wt. Oz.
6601	\$2.00	$\frac{3}{8}$	L.H.....	7
6602	1.65	$\frac{5}{16}$	L.H.....	6
6603	1.65	$\frac{1}{4}$	L.H.....	5
6604	1.45	$\frac{3}{16}$	L.H.....	5
6605	1.80	$\frac{1}{4}$	Int. Thrd....	5

No. 380 Atlas Tool-Post Tool Sets

For 10-Inch Lathes

High Speed Steel

High speed, ready-ground boring and turning tools.

Solid, one-piece construction.

Held directly in tool post.

Set includes $\frac{3}{4}$ -inch external 60° V-threading, $\frac{3}{8}$ -inch external turning; $\frac{1}{4}$ -inch internal threading; V-block; two height

spacers; and $\frac{3}{16}$, $\frac{1}{4}$, $\frac{5}{16}$ and $\frac{3}{8}$ -inch boring tools. Weight, 2 pounds.

No. 380.....per set \$9.35



Atlas Attachments for 10-Inch Lathes Right-Hand Spiral End Mills

For general milling: slots, facing and routing, squaring and splining shafts, cutting straight keyways.

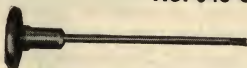
Adapted to holding set with collet bush-

ings (below).

Weight, 4 ounces.

No.....	576A	576B	576C	576D	576E
Each.....	\$2.20	2.30	2.55	2.80	3.15
Diameter.....inches	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$
Length Flute.....inches	$\frac{5}{8}$	$\frac{11}{16}$	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{15}{16}$

No. 945 Cutter Holding Sets



Holds milling cutter in headstock spindle.

Consists of draw bar, sleeve and 1 arbor for $\frac{1}{2}$ -inch straight shank cutters.

Weight, 3 pounds.

No. 945.....per set \$7.95

No. 563E Collet Bushing Sets

Required to adapt No. 576 straight shank end mills to No. 945 holding set.

Not required for No. 576E end mill.

Four in set. Weight, 6 ounces.

No. 563E.....per set of 4 \$3.10



Woodruff Keyway Cutters

For cutting Woodruff keyways, milling slots, grooves, T-slots, etc.

Held directly in arbor of No. 945 holding set.

Shank diameter, $\frac{1}{2}$ inch.

Weight, 6 ounces.



No.....	575A	575B	575C	575D	575E
Each.....	\$3.40	3.75	4.60	5.35	5.95
Diameter.....inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$
Thickness.....inches	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$

Angular Cutters with Threaded Hole

For face-milling, dovetailing and cutting angles less than 90°. Included angle, 60°.

Adapted to holding set with arbors (below). Weight, 6 ounces.

No.....	574A	574B
Each.....	\$6.55	7.35
Thickness.....inches	$\frac{7}{16}$	$\frac{9}{16}$
Diameter.....inches	$1\frac{1}{4}$	$1\frac{5}{8}$
Hole.....inches	$\frac{3}{8}$	$\frac{1}{2}$
Thread.....	24	20



Arbors for Angular Cutters

Required to adapt No.

574 angular cutters to

No. 945 set.

Weight, 8 ounces.



No.....	572	567
Each.....	\$1.65	1.65
For Angular Cutter No.....	574A	574B

No. 6813 Atlas Reversing Switches



For Atlas 10-inch lathes.

One horsepower for voltages up to 550 a.c. Ideal for average duty.

A box-type switch with knobbed lever control, mounts on bench.

Durable contacts are hard rolled copper.

Complete with switch cord, installation diagram.

Weight, $1\frac{1}{2}$ pounds.

No. 6813.....each \$7.15

No. 139 Atlas Tool Holders For 10-Inch Lathes



No. 139L

Drop forged special steel, accurately machined, heat treated. Alloy steel set-screws heat treated. Slot accurately machined for $\frac{1}{4}$ -inch cutter bits.

The $\frac{3}{8}$ -inch shank fits tool post slot.

Set of three handles all turning and facing operations.

Weight, 1 pound.

No. 139L, Left-Hand.....each \$2.40

No. 139R, Right-Hand.....each 2.40

No. 139, Straight.....each 2.40

No. 430 Atlas Threading Tool

For 10-Inch Lathes



Ground to cut 60° threads. Has $\frac{3}{8}$ -inch shank.

To resharpen, grind top edge only. Clamp screw holds tool rigid.

Weight, 1 pound.

No. 430.....each \$5.10

No. 590 Atlas Cutoff Tools For 10-Inch Lathes High Speed Steel



Quick, clean cutoffs. Drop forged holder with $\frac{3}{8}$ -in. shank and $3\frac{1}{2}$ -in. **high speed** ready-ground blade.

No. 590, with Blade; Weight, 1 Pound.....each \$3.15

No. 592, Extra Blade; Weight, 4 Oz.....each .90

No. 340 Atlas Knurling Tools For 10-Inch Lathes



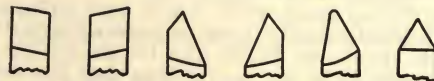
With medium diamond-shaped knurls. Floating construction makes rollers self-centering. Shank, $\frac{3}{8}$ inch. Hardened tool steel rollers form gripping

surface for handles, nuts, markers, etc.

No. 340; Weight, 1 Pound.....each \$5.95

No. 343, Extra Knurl; Wt. 2 Oz.....per pair 2.80

Atlas $\frac{1}{4}$ and $\frac{3}{8}$ -Inch Cutter Bits For 10-Inch Lathes



High speed $\frac{1}{4}$ -inch bits, ready-ground for use in Atlas tool holders, permit wide range of operations. The $\frac{3}{8}$ -inch bits are for use in tool post.

No. 386 Set Six formed cutter bits, $\frac{1}{4} \times \frac{1}{4}$ inch. Includes right and left-hand turning and facing, round nose, 60° V-threading. With bits illustrated.

No. 386; Weight, 1 Pound.....per set of 6 \$3.05

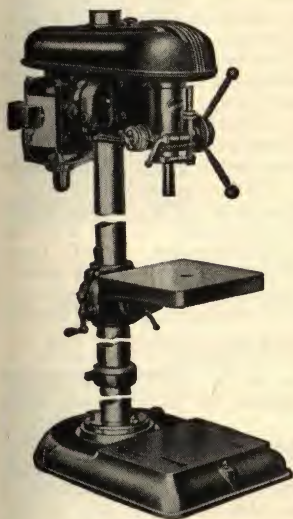
Unground Cutter Bit Sets

No.	Description	Per Set
386S	Six $\frac{1}{4}$ -Inch Cutter Bits.....	\$1.60
386T	Twelve $\frac{1}{4}$ -Inch Cutter Bits.....	3.15
385S	Six $\frac{3}{8}$ -Inch Cutter Bits.....	3.95

Delta 17-Inch Industrial Drill Presses

Motor Driven—Floor and Bench Type

¾-Inch Drilling Capacity in Cast Iron



Floor Type

Spindle pulley runs in two sealed-for-life ball bearings and takes all belt pull. The spindle is also carried in two sealed-for-life ball bearings set close together near the bottom of the quill.

Belt is completely guarded. Guard quickly removable for speed changing. Belt tension adjustable.

The entire spindle assembly may be changed easily and removed by loosening the threaded lock ring. Either No. 2 Morse taper or ½-inch Jacobs chuck may be used.

Both types have built-in depth gage. Depth scale on spindle return-spring housing. Raising mechanism for both head and table ball bearing equipped.

Order geared-chuck models where straight shank drills only are to be used. Where taper shank drills, or both taper and straight shank are to be used, specify models with No. 2 Morse taper spindles.

All models include streamlined belt guard. High speed models include No. 501 belt and No. 1312 motor pulley. Slo-speed models include No. 520 belt and No. 1311 motor pulley.

Floor Type with Table Raising Mechanism

Slo-Speed Models—385, 600, 935, 1450 and 2240 Rpm.

No.	Each	Type of Spindle	Description	Shp. Wt. Lb.
17-205	\$203.00	No. 2 Morse	Std. Tilt Table.....	310
17-210	220.00	No. 2 Morse	No. 1372 Prod. Table...	370
17-215	249.85	No. 2 Morse	No. 1372 Prod. Table & Foot Feed.....	404
17-207	\$211.00	½-In. Jacobs	Std. Tilt Table.....	310
17-212	228.00	½-In. Jacobs	No. 1372 Prod. Table...	370
17-217	257.85	½-In. Jacobs	No. 1372 Prod. Table & Foot Feed.....	404

High Speed Models—700, 1150, 1750, 2750 and 4250 Rpm.

17-206	\$203.00	No. 2 Morse	Std. Tilt Table.....	310
17-211	220.00	No. 2 Morse	No. 1372 Prod. Table...	370
17-216	249.85	No. 2 Morse	No. 1372 Prod. Table & Foot Feed.....	404
17-208	\$211.00	½-In. Jacobs	Std. Tilt Table.....	310
17-213	228.00	½-In. Jacobs	No. 1372 Prod. Table...	370
17-218	257.85	½-In. Jacobs	No. 1372 Prod. Table & Foot Feed.....	404

Bench Type with Head Raising Mechanism

Slo-Speed Models—385, 600, 935, 1450 and 2240 Rpm.

17-305	\$258.90	No. 2 Morse	Prod. Style Bench Base..	365
17-307	266.90	½-In. Jacobs	Prod. Style Bench Base..	365

High Speed Models—700, 1150, 1750, 2750 and 4250 Rpm.

17-306	\$258.90	No. 2 Morse	Prod. Style Bench Base..	365
17-308	266.90	½-In. Jacobs	Prod. Style Bench Base..	365

Above listings do not include motor or switch.

	Floor Type	Bench Type
Height Overall.....inches	67	44
Width.....inches	18	18
Tilting Table Surface.....inches	11x12	None
Production Table Surface.....inches	12½x17	16x18
Column Diameter.....inches	3½	3½
Column Height.....inches	60	40
Capacity Spindle to Base.....inches	43¾	26
Stroke of Quill.....inches	5	5

Delta 17-Inch Power Feed Drill Presses

Motor Driven—Floor and Bench Types

¾-Inch Drilling Capacity in Cast Iron
Slo Speed Models—385, 600, 935, 1450 and 2240 RPM.
High Speed Models—700, 1150, 1750, 2750 and 4250 RPM.

Built-in depth stop gage. Depth scale or spindle return spring housing. Mechanical power feed. Automatic adjustable stop and return.



Single Spindle Bench Type

Hand or power feed selected instantly. Eight rates of feed for each spindle speed. Special power feed belt tension release built into guard. Husky worm drive. Available in single and multiple spindle units (any number of spindles). Powered with either Delta or N.E.M.A. frame motors.

All models include streamline belt guard. Slo-speed models include No. 520 V-belt and No. 1311 motor pulley. High speed models include No. 501 V-belt and No. 1312 motor pulley. Motor, switch, coolant pump, or piping not included.

	Floor Type Single Spindle	Bench Type Single Spindle	Floor Type Two Spindle	Floor Type Four Spindle
Table Working Surface.....in.	12½x17	16x18	17½x36	17½x77
Max. Distance Spdle. to Base....in.	44			
Spdle. to Table....in.	32	*23½/16	*23½/16	*23½/16
Spindle Spacing....in.		18	18	18
Raising Mechanism....	Table	Head	Head	Head
Stroke of Quill.....in.	4½	4½	4½	4½

*No. 2 Morse Taper Spindle; with ½-inch Jacobs chuck spindle, 23½/16 inches.

Floor Type—Single Spindle

No.	Each	Speed Model	Type of Spindle	Shipping Wt., Lb.
17-260	\$332.50	Slo	No. 2 Morse Taper	418
17-262	340.50	Slo	½-Inch Jacobs	418
17-261	332.50	High	No. 2 Morse Taper	418
17-263	340.50	High	½-Inch Jacobs	418

Bench Type—Single Spindle

17-355	\$371.40	Slo	No. 2 Morse Taper	390
17-357	379.40	Slo	½-Inch Jacobs	390
17-356	371.40	High	No. 2 Morse Taper	390
17-358	379.40	High	½-Inch Jacobs	390

Floor Type—Two Spindle

17-455	\$800.80	Slo	No. 2 Morse Taper	843
17-457	816.80	Slo	½-Inch Jacobs	843
17-456	800.80	High	No. 2 Morse Taper	843
17-458	816.80	High	½-Inch Jacobs	843

Floor Type—Four Spindle

17-460	\$1585.60	Slo	No. 2 Morse Taper	1863
17-462	1617.60	Slo	½-Inch Jacobs	1863
17-461	1585.60	High	No. 2 Morse Taper	1863
17-463	1617.60	High	½-Inch Jacobs	1863

Light and Medium Duty ¾-Hp. Motors

No. 82-910, ¾-Hp., Capacitor, A.C., Ball Bearing, 115/230 Volts, 60 Cycles.....each	\$73.00
No. 86-720, ¾-Hp., 3 Phase, A.C., Ball Bearing, 220/440 Volts, 50/60 Cycles.....each	65.50

Heavy Duty 1-Hp. Motors

No. 84-910, R.I., A.C., Ball Bearing, 115/230 Volts, 60 Cycles.....each	\$93.50
No. 86-920, 1 Hp., 3 Phase, A.C., Ball Bearing, 220-440 Volts, 50/60 Cycles.....each	\$83.00

For 3-phase motors use No. 1320 manual starter or magnetic starters Nos. 1329 or 1321, with No. 1322 mounting parts. Use No. 1332 switch rod for single phase motors.

Delta Multiple 17-Inch Drill Presses



No. 17-410

Drilling capacity, $\frac{3}{4}$ inch in cast iron.

The spindle return spring housing is provided with a worm and gear wind to eliminate danger of fly-back when adjusting spring tension. Spring housing also has a depth gage.

Raising mechanisms are equipped with ball bearings.

Heads are interchangeable—high or low-speed heads may be used together, or heads with either type of spindle.

Two-spindle table: base, $29\frac{1}{2} \times 41\frac{1}{2}$ inches; surface, $23\frac{1}{2} \times 36$ inches; height, 32 inches. Four-spindle table: base, $28\frac{1}{2} \times 82\frac{1}{2}$ inches; surface, $23\frac{1}{2} \times 77$ inches; height, 32 inches. Center to center between spindles, 18 inches. Column diameter, $3\frac{1}{2}$ inches. Maximum distance from chuck to table, 26 inches. Table has $\frac{1}{2}$ -inch oil trough drilled and tapped at rear for $\frac{1}{2}$ -inch oil drain pipe.

All numbers include streamlined belt guards, raising mechanisms for heads, V belts, V pulleys and No. 1399 cast iron legs. Listings do not include motor or switch.

Slo-Speed Models: 385, 600, 935, 1450 and 2240 RPM.

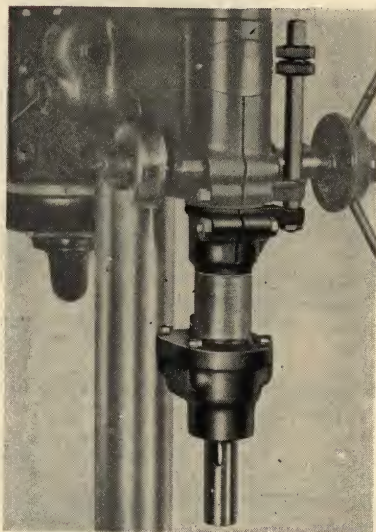
No.	Each	No. of Spindles	Type of Spindle	Ship. Wt., Lb.
17-405	\$575.80	2	No. 2 Morse	860
17-407	\$591.80	2	$\frac{1}{2}$ Inch Jacobs	860
17-410	1135.60	4	No. 2 Morse	1400
17-412	1167.60	4	$\frac{1}{2}$ -inch Jacobs	1400

High Speed Models: 700, 1150, 1750, 2750 and 4250 RPM.

No.	Each	No. of Spindles	Type of Spindle	Ship. Wt., Lb.
17-406	\$575.00	2	No. 2 Morse	860
17-408	\$591.00	2	$\frac{1}{2}$ -Inch Jacobs	860
17-411	1135.60	4	No. 2 Morse	1400
17-413	1167.60	4	$\frac{1}{2}$ -Inch Jacobs	1400

No. 17-860 Delta Slo-Speed Attachments

For 17-Inch Drill Presses



Provides extra slow operation of 17-inch drill press for spot facing, reaming, counter-boring, core drilling, and drilling of hardened parts.

Uses train of accurately machined, double-reduction gears which provide positive, chatter-free operation of spindle.

Fits any Delta 17-inch drill press, either High-Speed or Slo-Speed, having a No. 2 Morse taper spindle. Simple to install or remove; same drill press can be used for its regular speeds or slow

speed. Each machine thus has 10 speeds.

Ratio of input to output: input, 4.7 rpm.; output, 1 rpm.

Gears are heat treated—accurately machined for long wear.

Use of the attachment on the 17-inch drill press reduces spindle travel from 5 inches to 4 inches and reduces the distance from the end of the spindle to the table or base $7\frac{1}{2}$ inches.

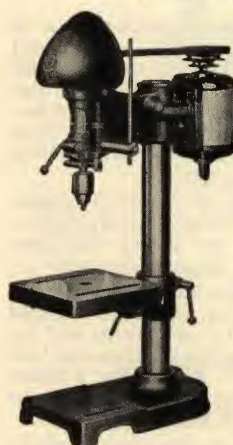
Shipping weight, 11 pounds.

No. 17-860.....each \$55.75

Delta 14-Inch Drill Presses

Tilting Table Type

Motor Driven—Single Spindle—Bench Type
 $\frac{1}{2}$ -Inch Capacity in Cast Iron Drilling



No. 14-007

For drilling, boring, mortising, carving, shaping, sanding and surface grinding.

Drills to center of 14-inch circle.

Free-floating spindle; double-seal bearings; heavy steel column; adjustable depth index; graduated quill; micrometer depth stop.

Built-in depth gage. Depth scale on quill. Pulley guard.

Height overall, $36\frac{1}{2}$ inches. Width of base, 10 inches. Table working surface, 10×10 inches. Spindle travel, 4 inches. Length of belt guard, $21\frac{3}{4}$ inches. Diameter column, $2\frac{3}{4}$ inches. Chuck to base, 17 inches.

Spindles are interchangeable. Jacobs chuck spindle will take drills from No. 60 to full $\frac{1}{2}$ -inch. Morse taper spindle for taper shank drills only.

Slo-speed models have speeds of 470, 780, 1300 and 1950 rpm. and include No. 430 V-belt and No. 985 motor pulley. High speed models have speeds of 680, 1250, 2400 and 4600 rpm. and include No. 387 V-belt and No. 985 motor pulley.

No.	With No. 1 Morse Taper Spindle		With $\frac{1}{2}$ -In. Jacobs Chuck Spindle	
	Slo-Speed	High Speed	Slo-Speed	High Speed
No.	14-005	14-006	14-007	14-008
Each	\$85.00	82.00	92.00	88.00
Maximum Dist:				
Spindle to Table....in.	$11\frac{7}{8}$	$11\frac{7}{8}$	$11\frac{3}{8}$	$11\frac{3}{8}$
Spindle to Base....in.	$17\frac{7}{8}$	$17\frac{7}{8}$	$17\frac{1}{8}$	$17\frac{1}{8}$
Ship. Wt.....lb.	110	110	110	110

Prices do not include motor or switch.

Delta 14-Inch Drill Presses

Single Spindle—Motor Driven—Floor Type
Drilling Capacity: $\frac{1}{2}$ In. Cast Iron; $\frac{3}{8}$ In. Steel



No. 14-208

Performs all drilling in metal. Will take all standard wood-boring spur bits; bores holes up to 2 inches and over using multi-spur bits.

With mortising attachment will make square mortises from $\frac{1}{4}$ to $\frac{1}{2}$ -inch in width, and of any length.

Routing work can be done with standard router bits with $\frac{1}{2}$ -inch shank. Handles shaper cutters and attachments. Sanding can be done with the use of drum sanders.

Seal-for-life ball bearings.

Ht., $66\frac{1}{2}$ in., diam. column, $2\frac{3}{4}$ in.; spindle travel, 4 in.; size table, 10×10 in.; production table 16×11 in.

Drills to center of 14-inch circle.

High speeds: 680, 1250, 2400 and 4600 rpm.; slo-speeds: 470, 780, 1300 and 1950 rpm. Prices do not include belt guard, motor or switch.

With No. 1 Morse Taper Spindle

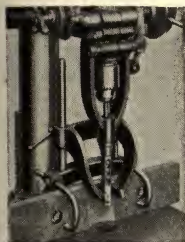
No.	Std. Tilting Table		Prod. Table		Prod. Table and Foot Feed	
	Slo-Speed	High Speed	Slo-Speed	High Speed	Slo-Speed	High Speed
No.	14-205	14-206	14-210	14-211	14-215	14-216
Each	\$97.50	94.50	132.00	129.00	158.50	155.50
Spdl. to Table...in.	$41\frac{3}{4}$	$41\frac{3}{4}$	$36\frac{1}{2}$	$36\frac{1}{2}$	$29\frac{1}{2}$	$29\frac{1}{2}$
Spdl. to Base...in.	$46\frac{3}{4}$	$46\frac{3}{4}$	$46\frac{3}{4}$	$46\frac{3}{4}$	$44\frac{3}{4}$	$44\frac{3}{4}$
Ship. Wt.....lb.	176	170	237	211	258	258

With $\frac{1}{2}$ -Inch Jacobs Chuck Spindle

No.	14-207	14-208	14-212	14-213	14-217	14-218
Each	\$104.50	101.50	139.00	136.00	165.50	162.50
Spdl. to Table...in.	$41\frac{1}{4}$	$41\frac{1}{4}$	36	36	29	29
Spdl. to Base...in.	$46\frac{1}{4}$	$46\frac{1}{4}$	$46\frac{1}{4}$	$46\frac{1}{4}$	$44\frac{1}{4}$	$44\frac{1}{4}$
Ship. Wt.....lb.	176	170	220	220	258	258

No. 1381 Delta Mortising Attachments

For All 17-Inch Drill Presses



Consists of a heavy base casting bolted to table of drill press. This carries a hard-maple fence, against which work is placed; 2 heavy rods, mounted in base, carry a cast bracket for hooked rods. Mortising chisel is held in holder, which replaces regular stop-rod clamp in drill press, and mortising bit is held in regular geared chuck. Capacity under hold-down, 6½ inches; ends of hooked rods to fence, 2½ inches.

Shipping weight, 15 pounds.

No. 1381, Complete without Bit or Chisel.....each \$13.80

No. 976 Delta Mortising Attachments

For 14-Inch Drill Presses



Used for making mortise-and-tenon joints.

Attachment transforms drill press into a mortiser.

The hold-down is raised and lowered on a vertical rod carried in a casting on top of the fence. The fence is of hard maple, 1½x2¼ inches, 12 inches long. Curved rods hold work against the fence.

Shipping weight, 8 pounds.

No. 976, Complete with Fence, Hold-Down Bracket, Hold Down and Rod, Chisel Holder, Curved Arms and Bolts, but without Spindle.....each \$6.95

Delta High-Grade Router Bits



For routing, carving, round-end mortises and grooving work of all kinds.

Made of high grade steel, tempered.

Shank diameter, ½ inch.

No.	474	475	476	477	478
Each.....	\$1.50	1.50	1.50	1.50	1.50
Size.....inches	¼	⅝	¾	⅞	1½
Length of Flute.....inches	1¼	1¼	1¼	1¼	1½
Shipping Weight.....ounces	4	4	4	4	4

No. 480, Set of 5 Router Bits. Sizes as Above.

Shipping Weight 2 Pounds.....each \$7.50

Delta Plug Cutters



With this plug cutter, dowels up to 2 inches long and plugs up to 1 inch thick are cut as fast as the tool can be fed into the wood. The ⅝-inch size is particularly suitable for boat building and for cutting deck plugs.

The shank, with ½x2-inch diameter, is made to fit No. 974 spindle. Length cut, 2 inches.

Approximate shipping weight, 6 ounces.

No.	814	815	816	817	819
Each.....	\$4.25	4.25	4.90	5.40	6.60
Size.....inches	⅝	½	⅝	¾	1

No. 822 Set, Complete, Including 5 Plug Cutters, Sizes as Above, Ship. Weight, 2½ Pounds....each \$25.40

Delta 14-Inch Band Saws

Metal or Wood Cutting—Motor Driven



Cuts extruded shapes square, beveled or at any angle. Miter-gage groove. Can be fitted with rip gage.

Equipped with sealed, lubricated ball bearings.

Height, without stand, 41¼ inches; with stand, 65½ inches. Width, 16¼ inches. Front to back, 24¾ inches.

Capacity, blade to frame, 13¾ inches. Capacity under guide, 6¼ inches; with height attachment, 12¼ in.

Table, 14x14 inches, tilts 45° to right and 10° to left. Table is 42¾ inches from floor. Overall height, 65½ inches. Width 16¼ inches; front to back, 24¾ inches.

Blades 93½ inches long are used.

On Cast Iron Stand

Metal Cutting

Speeds: with 1725 rpm. motor, 125, 175, 250 or 340 fpm.; with 1140-rpm. motor, 80, 114, 160 or 220 fpm. Not furnished with motor or switch.

Furnished complete with wheel guard, 8-inch arbor pulley for wood, 4-step arbor pulley for metal, metal cutting blade, best guard. V-belt for metal drive, V-belt for wood drive, 4-step motor pulley (specify bore) and stand.

No.	On Cast Iron Stand	On Steel Stand
No.	28-305	28-307
Each.....	\$227.45	195.70
Weight.....pounds	310	225

Motor Recommendations: No. 86-720—¾ hp., 3 phase, a.c., 220/440 volts, 50/60 cycles. No. 88-510—½ hp., d.c., 115 volts. No. 82-710—½ hp., capacitor, single phase, a.c., 115/230 volts, 60 cycles.

Wood Cutting

Available with 1725 rpm. motor only, one speed, 2200 fpm. Not furnished with motor or switch.

Furnished with wheel guards, 8-inch arbor pulley and one ¼-inch wood cutting blade, cast iron belt guard, V-belt and motor pulley and stand. Motor, switch or lamp attachment not furnished.

No.	On Cast Iron Stand	On Steel Stand
No.	28-205	28-207
Each.....	\$170.25	138.50
Weight.....pounds	305	220

Motor Recommendations: LIGHT DUTY; No. 60-310—⅓ hp., sp. ph., 115 volts, 60 cycles, a.c. MEDIUM DUTY; No. 62-110—⅓ hp., capacitor, 115/230 volts, 60 cycles, a.c.; No. 66-110—⅓ hp., 3 phase, 220 volts, 50/60 cycles, a.c. HEAVY DUTY; No. 66-320—½ hp., 3 phase, 220/440 volts, 50/60 cycles, a.c.

Accessories

No.	Each	Description	Wt. Lb.
882	\$2.95	Lamp Attachment.....	1½
387	1.10	Replacement V-Belt for Metal Drive.	1
49-141	1.35	Replacement V-Belt for Wood Drive.	1

No. 883 Delta Belt Guards

For 14-Inch Band Saws



Encloses belt on 14-inch band saw front and rear, and is designed to conform to all safety code and industrial-commission requirements.

Made of sheet steel and fastened to steel stand with screws.

Front is hinged to provide ready access to belts and pulleys, or for operating gear lever on metal cutting band saw. Fastened by tightening one conveniently operated clamp knob.

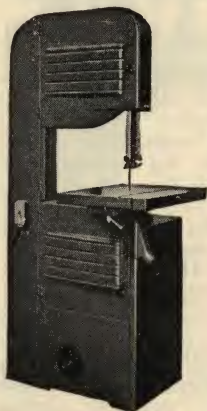
Furnished with screws to fasten to stand.

Shipping weight, 12 pounds.

No. 883.....each \$11.00

No. 28-350 Delta 20-Inch Wood Cutting Band Saws

Motor Driven



Designed for large capacity jobs.

Table is 20 inches wide by 24 inches long. Has ground finish and a $\frac{3}{8} \times \frac{3}{4}$ -inch slot for miter gage. Two heavy trunions 17 inches apart on either side of saw blade give table support and rigidity. Table tilts 45° to the right and 12° to the left. Tilt scale gives actual angle of cut.

Ball bearing blade guides both above and below table, reduce blade breakage. Upper guide adjustable, lower guide comes within 1 inch of bottom of work.

Welded steel cabinet encloses all working parts. Doors provide access to motor and wheels. Only actual working surface of blade is exposed.

Wheels 20 $\frac{1}{4}$ -inches in diameter and 1 $\frac{3}{8}$ -inch wide are mounted in ball bearings.

Blade tension control on upper wheels maintains proper blade tension, tension scale provides adjustment to type job. Motor mounted in base on pivot bracket provides correct amount of belt tension. Foot brake on lower wheel. Dust chute carries away chips and dust.

No.	28-350
Without Miter Gage, Motor or Switch.....	each \$400.00
Shipping Weight.....	pounds 550
Overall Height.....	inches 78 $\frac{1}{2}$
Overall Width, Including Table.....	inches 29 $\frac{1}{2}$
Maximum Blade Length.....	inches 141
Maximum Blade Width.....	inches 1
Dust Chute Connection, Outside Diameter..	inches 24 $\frac{1}{2}$

Delta Band Saw Blades

Made of high grade steel, accurately set, spaced and jointed, these blades will stand up under hard work. Standard blades for 14-inch band saws are 93 $\frac{1}{2}$ inches long; special blades for use with height attachment are 105 inches long.

Wood Cutting for 14-inch Band Saws

Standard 93 $\frac{1}{2}$ -Inch

Shipping weight each, 15 ounces.

*Special, 105-Inch

Shipping weight each, 18 ounces.

No.	Each	Width Inches	Cut Radius Inches	No.	Each	Width Inches	Cut Radius Inches
1032	\$1.55	1 $\frac{1}{8}$	1 $\frac{1}{4}$	1045	\$1.75	1 $\frac{1}{8}$	1 $\frac{1}{4}$
1033	1.55	$\frac{3}{16}$	1 $\frac{1}{2}$	1046	1.75	$\frac{3}{16}$	1 $\frac{1}{2}$
1034	1.55	$\frac{1}{4}$	$\frac{3}{4}$	1047	1.75	$\frac{1}{4}$	$\frac{3}{4}$
1036	1.55	$\frac{3}{8}$	1	1048	1.75	$\frac{3}{8}$	1
1038	1.55	1 $\frac{1}{2}$	1 $\frac{1}{4}$	1050	1.75	1 $\frac{1}{2}$	1 $\frac{1}{4}$
1040	1.65	$\frac{3}{4}$	1 $\frac{3}{4}$	1052	1.90	$\frac{3}{4}$	1 $\frac{3}{4}$

*Used with No. 894 height attachment.

For 12-Inch Saw, 78 Inches Long				For No. 785 Saw, 66 Inches Long				For No. 768 Saw, 74 Inches Long			
No.	Each	No.	Each	No.	Each	Width Inches	Cut Radius Inches	No.	Each	Width Inches	Cut Radius Inches
532	\$1.30	732	\$1.25	770	\$1.25	1 $\frac{1}{8}$	1 $\frac{1}{4}$	771	1.25	$\frac{3}{16}$	1 $\frac{1}{2}$
533	1.45	733	1.25	772	1.25	$\frac{1}{4}$	$\frac{3}{4}$	773	1.25	$\frac{3}{8}$	1
534	1.45	734	1.25	774	1.60	1 $\frac{1}{4}$	1 $\frac{3}{4}$				
536	1.45	736	1.25								
*381	1.35	*781	1.60								

*For cutting soft metals.

Metalcutting for 14-inch Band Saws

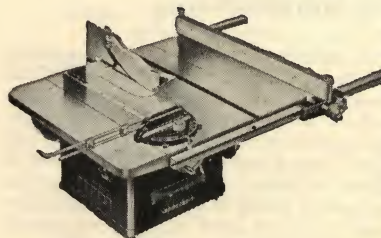
93 $\frac{1}{2}$ -Inch

Hard-edge blades for cutting all metals.

Shipping weight each, 1 pound.

No.	Each	Width, Inches	Teeth per Inch
1060	\$2.95	1 $\frac{1}{2}$	14
1062	2.95	1 $\frac{1}{2}$	18
1064	2.95	1 $\frac{1}{2}$	24

No. 34-500 Delta 8-Inch Tilting Arbor Saws



For use in the home workshop.

Rip fence extends full length of table. Locks securely both front and back and rides on accurate channel bars. Front bar indexed and notched for micrometer adjustment in setting of fence.

Handwheels and locking controls for the blade raising and arbor tilting mechanism are located to the front of the machine. No interference between controls.

Cabinet made of heavy steel.

Table is 22 inches deep by 15 inches wide. Two 22x5-inch side wings may be furnished at extra cost. Table is made of fine grained grey iron casting, ribbed to prevent warping and then ground.

Sealed, lubricated for life ball bearings.

Speed 3850 rpm. with standard 1725 rpm. motor.

Cuts and rips stock a full 2 $\frac{1}{4}$ -inch thick. With a single pass over the dado head, cuts $\frac{1}{16}$ inch wide can be made. Cuts to a 1 $\frac{1}{16}$ -inch capacity at the full 45° tilt.

Diameter of arbor, $\frac{5}{8}$ inch; table front of blade on capacity cut, 11 $\frac{5}{8}$ inches; maximum rip to right of blade, 24 inches; table working height on steel stand, 34 $\frac{1}{2}$ inches; overall dimension, 17 $\frac{1}{2}$ x37 $\frac{1}{2}$ x32 inches.

Saw is furnished complete with rip fence, rip fence guide bars, auto-set miter gage, 8-inch combination saw blade, table insert, arbor pulley and motor cord.

Shipping weight, 103 pounds.

No. 34-500 each \$83.50

No. 50-810 Steel Stands

Steel stand brings circular saw to convenient working height. Height of stand, 21 $\frac{1}{2}$ inches; top, 15x15 inches.

No. 50-810 each \$18.25

Delta 10-Inch Circular Saws

With Tilting Table

Table size, 20x27 inches. From the saw blade to the front edge of the table, the table surface measures 12 $\frac{1}{2}$ inches

wide so that stock a full 12 inches wide and 3 $\frac{1}{4}$ inches thick can be cut. There are 5 inches of table behind the blade to support the work as it leaves the saw. Rips to center of 50-inch panel.

Solid-forged alloy steel arbor with ball bearings. Heavy walled tubes form the rip-fence guide bars.

Micro-set rip fence is carried on a heavy casting at the front, locked to the front guide bar by a cam lever with a bakelite ball handle. Rear lock is operated from the front also. Auto-set miter gage has individual adjustments for 45° and 90° settings.

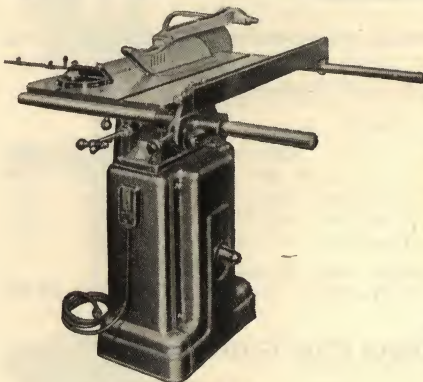
Furnished with auto-set miter gage, combination blade, micro-set rip fence, graduated front rip fence guide bar, plain rear guide bar, belt guard, swing guard, splitter attachment, V-belt and motor pulley.

No. 34-307, with Steel Stand each \$171.90

No. 34-305, with Cast Iron Stand each 203.65

No. 530 V-Belt, Circumference: Inside 52 $\frac{1}{16}$ Inches, Outside, 55 Inches each 1.40

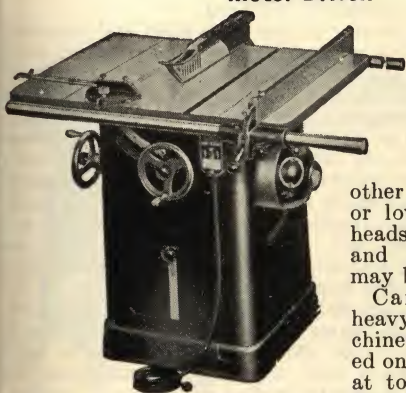
Nos. 82-910 or 86-720 motors recommended for ordinary use. For heavy duty, specify motor Nos. 84-910 or 86-920.



No. 34-305

Delta 10-Inch Tilting Arbor Saws

Motor Driven



Motor and driving mechanism enclosed in steel cabinet.

Saw blade tilts 45° to right, operated by large handwheel.

Another handwheel raises or lowers blade. Dado heads, moulding cutters and other attachments may be used.

Carriage swings on heavy, completely machined trunnions mounted on heavy gusset plate at top of steel casting.

Front trunnion carries

oilless bushing for tilting shaft and is provided with finely machined teeth to engage tilting worm, as well as with adjustable stops at 90° and 45°. Front and rear carriage members carry oilless bronze bushings for raising and lowering worm shaft. Shaft is carried in two sealed-for-life bearings, mounted in diamond-bored seats.

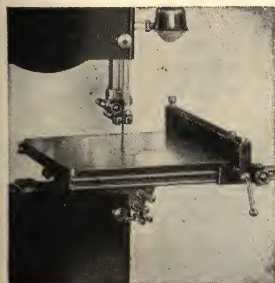
Saw blade rips full 3 1/8-inch stock. Table, 20x27 inches; with wings, 36x27 inches. Handles work up to 50 inches wide. Guide bars allow fence to be moved 25 inches to right of blade, 15 inches to left. Table has two 3/8x3/4-inch grooves for miter gage. Rip fence locks at both ends. Top with wings including guide bars, 30 1/4x45 3/8 inches. Height, 34 inches.

Furnished with side extension wings, micro-set rip fence, 10-inch combination blade, auto-set miter gage, extension rip-fence, graduated guide bars, motor pulley, three V-belts and super-safe guard. Without motor or switch.

Weight, 334 pounds.

No. 34-405, for 60 Cycle Service.....each \$254.00

Delta Micro-Set Rip Gages



For 14-Inch Band Saws

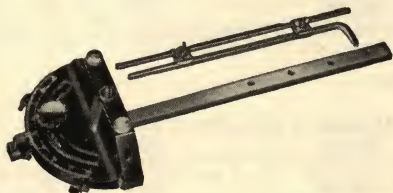
Guide bars are attached to front and rear edge of table with screws. Due to the patented construction of table, guide bars need not be removed even to change blades. Fence has same micro-set adjustments as circular saw fence. Shipping weight: No. 28-843, 8 pounds, No. 28-845, 14 pounds.

No. 28-843, for 14-Inch Band Saw, with 18-Inch Front and Rear Guide Bars, Micro-Set Fence and Screws for Attaching Guide Bars.....each \$9.25

No. 28-845, for 14-Inch Band Saw; with 32-Inch Guide Bars.....each 10.25

No. 864 Delta Auto-Set Mitre Gages

For Saws and Other Machines

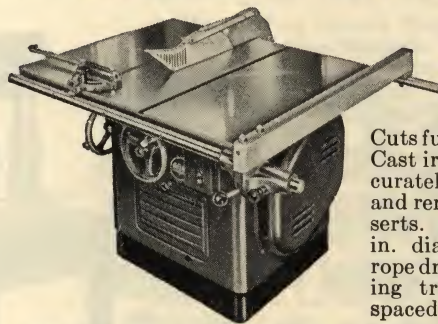


Automatically indexed mitre gage with individually adjustable index stops. Will fit any table with 3/8x3/4-in. groove. Tapered pivot insures close fit for entire life of gage. Massive body gives full support and will not spring. Bar is heavy, 3/8x3/4 inch, 17 inches long; rigid and strong. Full 3/8-inch diameter stop rod, with two heavy clamps.

Shipping weight, 4 1/2 pounds.

No. 864.....each \$5.75

Delta 12-Inch Tilting Arbor Saws



Large capacity; splits 4-foot panel into 2 parallel sections.

Cuts full 4 1/8-inch thick. Cast iron table with accurately ground surface and removable table inserts. Saw arbor, 1 1/8-in. diam.; 4-belt Tex-rope drive. Large swinging trunnions, widely spaced, rigid.

Cast iron auto-set miter gage. T-slot on either side of saw blade. Aluminum rip fence with micro-set pinion, locks front and back simultaneously with single operating handle at front of machine. Both faces of rip fence milled for ripping. Scale magnifier lens for easy, quick and accurate setting of fence. Removable arbor extension with longer extension for moulding cutter and dado head.

Safe blade guard with splitter, anti-kickback fingers. Pressed steel sawdust deflector permits view of blade at all times. Removable clean-out panel in base with 4-inch spout for connection to dust collection system.

Perfecting raising, lowering and tilting mechanism.

Welded steel cabinet encloses all working mechanisms.

Diameter arbor, 1 1/8 inches. Diameter saw, 12 inches.

Maximum thickness of cut, 4 1/8 inches. Maximum thickness of cut at 45-degree tilt, 2 7/8 inches.

Maximum width of dado cut, 1 1/8 inches.

Maximum width of cut-off (1-inch stock), 19 inches.

Maximum width to left of blade, 15 inches.

Maximum width to right of blade, 30 inches.

Front of table to center of blade, 22 inches.

Front of blade at maximum cut, 16 inches.

Table size, 38x48 inches; height, 34 inches.

Cabinet size, 26 1/2x30 inches.

Speed with 12-inch blade and 3450-rpm. motor, 3750 rpm.

Furnished complete with welded steel cabinet, 38x48-inch table-surface, standard motor mounting plate, cast aluminum motor cover, auto-set miter gage, rip fence, guide rails, blade guard, splitter with anti-kickback fingers. 12-inch combination blade, 4 matched V-belts, motor pulley, magnetic starter and motor installed and wired complete.

No.	Each	Hp.	Volts	Motor		Approx. Ship. Wt., Lb.
				Phase	Cycles	
34-351	\$870.00	5	220	3	60	885
34-352	870.00	5	440	3	60	885
34-370	966.40	3	115	1	60	885
34-371	966.40	3	230	1	60	885

Accessories

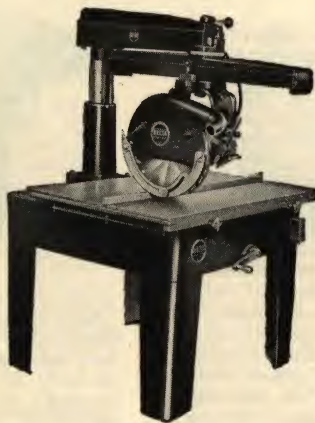
No.	Description	Each
34-925	Auto-Set Miter Gage, with Stop Rods. . . .	\$17.50
34-930	12" Comb. Blade, 44 Teeth, 1 1/8" Hole. . . .	4.85
34-931	12" Rip Saw Blade, 14 Ga., 36 Teeth, 1 1/8" Hole . .	4.85
34-932	12" Crosscut Blade, 14 Ga., 100 Teeth, 1 1/8" Hole . .	4.85
34-933	12" Hollow Ground Blade, 12-14-12 Ga., 1 1/8" Hole with 3 1/2-inch Collar.	10.45
34-940	8" Dado Head, 1 1/8" Hole, Capacity 1 1/8" Inch Cut, by 16ths.	33.44
34-942	1 1/8"-Diam. Arbor Extension for Dado Head 1 1/8" Wide and Moulding Cutter Head	7.50
34-943	1 1/8" Diam. Arbor Extension for 2"-Wide Dado or Moulding Cutter Heads.	10.00
34-945	Hardwood or Plywood Table Insert for Dado and Moulding Cutter Head; Shaped, Fitted and with Screws.	3.00
34-947	1" Diam. Arbor Extension for Saws with 1" Arbor Hole.	7.50
34-948	1 1/4" Diam. Arbor Extension for Saws with 1 1/4" Arbor Hole.	7.50
34-949	1" Diam. Arbor Extension for 2" Wide Dado Head, 1" Bore.	10.00
34-950	1 1/4" Diam. Arbor Extension for 2" Wide Dado Head, 1 1/4" Bore.	10.00
49-150	Set of 4 Matched V-Belts; Outside Circumference, 28 1/4 Inches per set of 4	10.40

Delta 12, 14 and 16-Inch Radial Saws

CANTILEVER ARM is cast semi-steel and can also be positioned from normal cut-off position to work on opposite side of table. It supports a cast semi-steel arm-track which can be revolved 360° horizontally above the work table to cut miters from 0 to 90° either right or left. Finder latch fits slots in the arm track miter flange to quickly locate arm for cut-off, right or left hand 30°, 45°, 60° and 90° positions. Mechanical adjustments are provided to maintain saw arm in perfect alignment with the back guide. Rip scale along the saw arm provides easily visible means of locating the ripping position. Miter scale in single degrees is mounted on arm pivot directly in front of the operator.

CARRIAGE rides on four grease-packed, pre-loaded double row ball bearings. These bearings ride on hardened steel track-rods rigidly held in position on machined tracks inside the arm. Mechanical adjustments are provided to maintain saw carriage movement parallel with the table working surface and to keep a straight saw kerf. Rip lock rigidly locks saw carriage in any position on the arm-track. Rip pointer indicates correct width for right or left-hand ripping. Track rods can be adjusted 360° to compensate for any wear.

TABLE is steel channel construction, ribbed to prevent distortion and supported on wide detachable legs. The wood table top is stationary and rigid for any operation and has a back guide rigidly located to keep the guide fence perfectly square. Vertical mechanical aligning nuts are provided under the table to maintain a level working surface at all times. Steel table is full length of the wood top. Front



fence controls furnished.

COLUMN is cast semi-steel and cadmium plated to prevent rust. The elevating screw is fully concealed within the column. From elevating handle raises or lowers column and arm exactly 1/8-inch per complete turn.

YOKE is heat treated aluminum construction. It swivels 360° horizontally. Finder latch quickly locates saw for straight cut-off and right or left hand ripping. Motor can be turned vertically within the yoke for any bevel cut. Bevel clamp rigidly locks the motor at any angle. The bevel finder latch quickly locates commonly used cut-off 30°, 45°, 60°, and 90° positions. Clear vision single degree scale indicates every angle of bevel cut. Mechanical adjustments keep motor in true, set position, maintaining saw blade exactly vertical to table work surface.

SAFETY GUARD is quickly attached or removed and adjustable to the thickness of the material cut. Kick-back device is provided for use in ripping and plowing and is permanently located on the guard, always ready for instant adjustment and never need be removed when doing other operations. Dust spout is adjustable for right and left hand ripping. Machine has every device to provide complete protection including an arbor cover which fully encloses the saw arbor and lower guard leaves.

STANDARD MODELS include steel table with legs and wood top, column, uniform cantilever type overarm, enclosed arm-track, ball bearing roller carriage, motor, switch, safety guard, saw blade and necessary wrenches.

Size.....	inches	12	14	16
Motor Rating.....	hp.	2, 3	2, 3	3, 5, 7½
Motor Speed (Full Load), 60 Cycles.....	rpm.	3450	3450	3450
Motor Speed (Full Load), 50 Cycles.....	rpm.	2850	2850	2850
Standard Saw Blade, 1-Inch Bore.....	inches	12	14	16
Saw Carriage Travel.....	inches	20	20	30
Cross Cut Capacity, 1-Inch Stock.....	inches	18	18	25
Maximum Rip Capacity.....	inches	30	30	38¾
Double Miter Capacity, Right or Left.....		0 to 90°	0 to 90°	0 to 90°
Overall Height.....	inches	56	56	68
Steel Table.....	inches	30x37	30x37	37x37
Wood Table Top.....	inches	26x42	26x42	29x44
Height Table Top.....	inches	32	32	33½
Maximum Depth of Cut.....	inches	3⅝	4⅝	5⅝
Approximate Net Weight.....	pounds	475	475	650
Approximate Shipping Weight.....	pounds	600	600	800

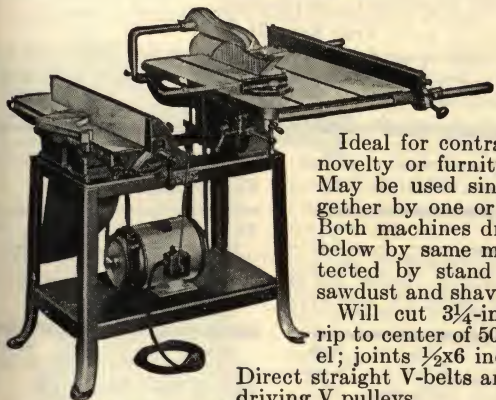
12 and 14-Inch Radial Saws

No.	Each	Hp.	Voltage	Phase	Cycles	Std. Blade In.	No.	Each	Hp.	Voltage	Phase	Cycles	Std. Blade In.
33-526	\$495.00	2	115/230	1	60	12	33-532	\$495.00	3	550	3	60	14
33-527	495.00	3	220	3	60	14	33-533	495.00	3	220/380	3	50	14
33-528	495.00	3	440	3	60	14	33-534	495.00	3	400	3	50	14
33-529	495.00	2	115/230	1	50	12	33-535	495.00	3	208	3	60	14
33-530	495.00	3	220	3	50	14	33-536	495.00	3	220	2	60	14
33-531	495.00	3	380	3	50	14	No. 33-541, Power Feed Attachment.....each						\$275.00

16-Inch Radial Saws

No.	Each	Hp.	Voltage	Phase	Cycles	Std. Blade In.	No.	Each	Hp.	Voltage	Phase	Cycles	Std. Blade In.
33-500	\$795.00	3	115/230	1	60	16	33-511	\$875.00	7½	220	2	60	16
33-501	795.00	5	220	3	60	16	33-512	795.00	5	220	3	50	16
33-502	795.00	5	440	3	60	16	33-513	795.00	5	380	3	50	16
33-503	795.00	5	550	3	60	16	33-514	795.00	5	400	3	50	16
33-504	835.00	5	230	1	60	16	33-515	795.00	5	500	3	50	16
33-505	795.00	5	208	3	60	16	33-516	875.00	7½	220	3	50	16
33-506	795.00	5	220	2	60	16	33-517	875.00	7½	380	3	50	16
33-507	795.00	5	440	2	60	16	33-518	875.00	7½	400	3	50	16
33-508	875.00	7½	220	3	60	16	33-519	875.00	7½	500	3	50	16
33-509	875.00	7½	440	3	60	16	33-520	795.00	3	115/230	1	50	16
33-510	875.00	7½	550	3	60	16	No. 33-541, Power Feed Attachment.....each						\$275.00

No. 37-595 Delta 10-Inch Circular Saw and 6-Inch Jointer Combination Units
Motor Driven



Ideal for contractors and novelty or furniture shops. May be used singly or together by one or two men. Both machines driven from below by same motor; protected by stand top from sawdust and shavings.

Will cut 3 1/4-inch stock; rip to center of 50-inch panel; joints 1/2 x 6 inches wide.

Direct straight V-belts are used for driving V pulleys.

Furnished with steel stand, V-belts for saw and jointer, motor pulleys for saw and jointer, swing guard and splitter for saw. Motor or switch rod not furnished.

No. 37-595, Weight, 364 Pounds.....each \$276.90

Motors			Motors		
R.I., A.C.,	115/230 V.,	60 Cy.	3Ph., A.C.,	220/440V.,	50/60 Cy.
No.	Hp.	Description	No.	Hp.	Description
82-910	3/4	Light Duty	86-720	3/4	Light Duty
84-910	1	Medium Duty	86-920	1	Medium Duty
			87-120	1	Heavy Duty

Use No. 1320 or 1329 3-ph. starters and 1322 mounting parts. Use No. 1334 switch rod for single-phase motors.

Accessories				
No.	Each	Description	Wt. Lb.	
662	\$3.75	Rear Knife Guard for Jointer.....	2	
560	1.40	Replacement V-Belt for Saw.....	1	
510	1.30	Replacement V-Belt for Jointer.....	1	

No. 34-813 Delta Heavy Duty Moulding Cutter Sets

For Circular Saws



Cutter consists of a strong, well-designed head. The solid steel head may be used on Nos. 34-405, 34-407, 34-305, 34-307 circular saws, or on most other saws provided with a double-face fence.

Set of three interchangeable knives locked into head.

All heavy duty heads 5/8-inch bore. Extra for 3/4 or 7/8-inch.

Moulding cutter set consists of solid steel head, 4 sets of knives and wrench. Shipping weight, 5 pounds.

No. 34-813.....each \$21.20

Extra Cutter Heads and Inserts

No. 265. Heavy duty, solid steel head only, to fit 5/8-inch arbor. Not furnished in 1/2-inch bore. Without wrench or knives. Weight, 3 pounds.....each \$5.95

Extra for boring 3/4 or 7/8 inch, \$2.50.

No. 1162. Moulding cutter insert for Nos. 34-305 and 34-307 saws. Weight, 1 1/2 pounds.....each \$1.95

No. 1453. Moulding cutter insert for Nos. 34-405 and 34-407 saws. Weight, 1 1/2 pounds.....each \$2.75

No. 1521. Wrench. Weight, 6 Ounces.....each .25

Delta Cutter Head 3-Knife Moulding Blade Sets
High Speed Steel

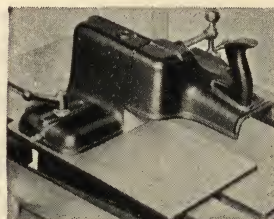


Used with shaper cutter head No. 1343 or circular saw head No. 265. Will cut thousands of feet of moulding before dulling.

Shipping weight each, 1/4 pound.

No.	Per Set of 3	Description
35-100 ...	\$3.75	1/2-In. Cove, 5/16-In. Qt. Rd.
35-101 254	3.75	5/16-In. Cove, 3/8-In. Bead
35-102 253	3.75	1/8 and 3/8-Inch Quarter Round and 1/4-Inch Bead
35-103 250	3.75	1/4 and 1/2-In. Qt. Round
35-104 259	3.75	Straight
35-106 ...	3.75	90° Flute
35-110 256	3.75	Drawer Joint
35-131 257	3.75	Glue Joint
35-190 ...	3.75	3 Bead (3/16-Inch Bead)
35-191 ...	3.75	3 Flute (1/16-Inch Flute)
35-192 ...	3.75	3 Bead (1/4-Inch Bead)
35-193 ...	3.75	3 Flute (1/4-Inch Flute)
35-194 ...	3.75	5 Flute (1/8-Inch Flute)
35-195 ...	3.75	5 Bead (1/8-Inch Bead)
35-196 ...	3.75	Wedge Tongue
35-197 ...	3.75	Wedge Groove
35-200 255	3.75	Clover Leaf Screen Moulding (9/32 x 9/16 Inch)
35-206 ...	3.75	Pgee R. H.
35-211 ...	3.75	1-Inch Flute
35-221 251	3.75	Thumb Mould
35-222 252	3.75	1/2-Inch Cove and 1/4-Inch Flute
35-223 258	3.75	Ogee
35-224 247	3.75	5/8-Inch Cove
35-225 263	3.75	Flute Bead, Qt. Rd. and Ogee Comb.
35-226 264	3.75	Flute Bead, Qt. Rd. and Ogee Comb.
35-227 269	3.75	Flute Bead, Qt. Rd. and Ogee Comb.
35-228 261	3.75	Flute Bead

Delta Circular Saw Tenoners



Makes all cuts safe, square and parallel. Work is fed to saw with one hand. Hand does not come near revolving blade.

Takes stock up to 2 3/4 inches thick, any width within capacity of saw, and tenons to 2 inches long on an 8-inch saw.

With use of No. 1171 spacing collars and an extra saw blade, 1/4 or 3/8-inch tenons can be cut at one pass.

No. 1172, Tenoner Complete with Base Plate Weight, 31 Pounds.....each \$22.50

No. 1171, Spacing Collar Set (One 1/4 and one 3/8-Inch Collar).....per set 1.95

No. 1170, Tenoner, For use with No. 1186 Sliding Jig, Weight, 21 pounds.....each 14.95

Delta 24-Inch Scroll Saws

4-Speed Unit—Motor Driven

Uses all types of blades and operates with a minimum of vibration. Has a selection of speeds for various types of work. Universal patented chuck takes jewelers' blades, pin blades, saber blades, round shank files up to $\frac{1}{4}$ inch without extra parts. Timken bearing crankshaft, splash lubricated. Table tilts for sidewise or straight cuts.

A 1725-rpm. motor has speeds of 650, 1000, 1300 and 1750 rpm., a satisfactory range for average work.

Length, 36 in.; width, 14 in.; height on stand, 55 in.; size cast iron table, 14x14 in.; capacity, $1\frac{3}{4}$ in. thick; 24-in. reach.

Scroll saw furnished on steel stand with 4-step cone pulley on arbor, 4-step cone pulley for motor; 1 saber blade, 3 jewelers' blades; V-belt; belt and pulley guard. Without motor or switch.

No. 40-205, Weight, 194 Pounds.....each \$101.50

No. 340, Replacement V-Belt, Inside Circumference, $34\frac{5}{8}$ Inches; Weight, $\frac{1}{2}$ Pound.....each 1.00

For light and medium duty, use motor Nos. 62110 or 60310; for heavy duty, Nos. 60310 or 66110.

Variable Speed Unit

Any speed from 650 to 1700 rpm. can be selected. Speed can be controlled within 1 or 2 c.s.m.

High speed for fast, finework; low speed for heavy work; and any speed between.

Furnished complete variable speed unit on steel stand with 1 saber blade, 3 scroll saw blades, variable speed motor pulley, motor base with bracket, V-belt, arbor pulley, belt and pulley guard. Motor or switch not furnished.

No. 40-305, Weight, 197 Pounds.....each \$112.60

No. 331, Special V-Belt for Variable-Speed Pulleys

Only, Shipping Weight, $\frac{1}{2}$ Pound.....each 1.00

No. 1204 Delta Lower Blade Guides

For Saber Blades

For Nos. 1200 and 1440 scroll saws only.

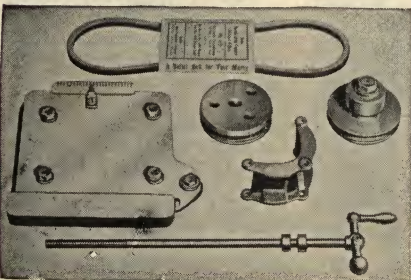
This attachment consists of 2 individual guides to fit Nos. 703 and 704 saber blades, carried on an adjustable post that fits in the crankcase immediately behind the lower plunger.

It supports the blade directly under the table, and, in conjunction with the upper guide, enables perfect straight line work to be done, as there is no opportunity for the blade to spring.

Furnished with guide post, nut and thumbscrew.

No. 1204.....each \$.95

Delta Multi-Speed Attachments



Converts any standard 4-speed 24-inch scroll saw into a multi-speed model.

Consists of a variable-speed motor pulley, motor base with bracket screw and handles, special V-belt and special arbor pulley. Accessory group makes possible any speed from 650 to 1700 rpm. when used with 1725 rpm. motor.

No. 1444 Standard Accessory Group; Wt., 11 Lb. each \$16.25

No. 1442 Belt and Pulley Guard for No. 1444 Group; Weight, 6 Pounds.....each 6.75

Delta Scroll Saw Blades

Length 5 inches. Accurately spaced teeth properly set and hardened. Blade ends have $\frac{5}{8}$ -inch blanks for fastening into chucks. Furnished 6 to package.

Fret Saw Blades

With widely spaced teeth, not set and not tempered for metal. For sawing wood where extremely thin cut is required; very fast cutting.

No.	Per Dozen	Size Inches	Teeth per Inch
81	\$.50	.010x.070	14
82	\$.50	.010x.055	16

No.	Per Dozen	Size Inches	Teeth per Inch
83	\$.50	.010x.045	18
84	\$.50	.008x.035	20

With widely spaced teeth approximately .010 inch thicker than the above blades, not set. Tempered for sawing plastics, bone, celluloid, etc.; very fast in wood.

No.	Per Dozen	Size Inches	Teeth per Inch
85	\$.50	.020x.055	15
86	\$.50	.020x.065	12

No.	Per Dozen	Size Inches	Teeth per Inch
87	\$.50	.020x.070	7
88	\$.50	.020x.110	7

Jig Saw Blades

With filed and set teeth, oil hardened and of medium temper for sawing wood and other substances. Will also saw soft metal.

No.	Per Dozen	Size Inches	Teeth per Inch
91	\$.70	.020x.110	15
92	\$.50	.020x.110	10

No.	Per Dozen	Size Inches	Teeth per Inch
93	\$.70	.028x.187	10
94	\$.90	.028x.250	7

Piercing Saw Blades

Teeth are not set. Hardened and tempered for scroll sawing metals, bone, pearl, etc. Used most exclusively in fine metal arts. Will discolor wood at high speed because teeth are not set.

No.	Per Dozen	Size Inches	Teeth per Inch
95	\$.70	.016x.054	30
96	\$.70	.016x.054	20

No.	Per Dozen	Size Inches	Teeth per Inch
97	\$.50	.020x.070	15
98	\$.70	.020x.085	12

Scroll Saw Blades

With set teeth hardened and tempered for sawing metals. Used extensively for sawing templates, light and heavy metal craft, electrotypes metals, etc. Nos. 59, 60 and 61 are also good wood cutters.

No.	Per Dozen	Size Inches	Teeth per Inch
58	\$.70	.020x.070	32
59	\$.70	.020x.070	20

No.	Per Dozen	Size Inches	Teeth per Inch
61	\$.70	.020x.085	15
64	\$.70	.020x.110	20

*Heavy duty hacksaw blade.

*65 \$1.00 .020x.250 20

Saber Blades

For wood. Close to 80 per cent of all scroll saw work, except the finer work in wood and metal, can be done with saber blades. This is true because the free end is properly backed up and supported close to the point where the cutting strain takes place. Made of steel, accurately hardened and set. Length overall, 5 inches.

No.	Per Dozen	Size Inches	Teeth per Inch
703	\$.80	.025x.187	9
704	\$.90	.035x.250	7

Delta 6-Inch Jointers**Motor Driven**

For use in woodworking shops, production work and in school shops. Especially useful in pattern shops.

**No. 37-205**

The jointer is a heavy, rigid unit, cast of close grained iron and accurately machined to close tolerances. Front and rear tables are individually controlled. Gibs are provided on the dovetailed ways to take up wear.

Ground, rigid fence tilts 45° toward and 45° away from knives. Has adjustable stops at 45, 90 and 135 degree angles. Free swing dual control handle.

Convenient scales on the table and fence. Front knife guard provides protection. Cutter head has three knives.

Has sealed ball bearings requiring no lubrication.

Stand with built-in chute to carry off shavings.

Table width will surface boards 6 inches wide. Will cut rabbet 1/2 inch deep.

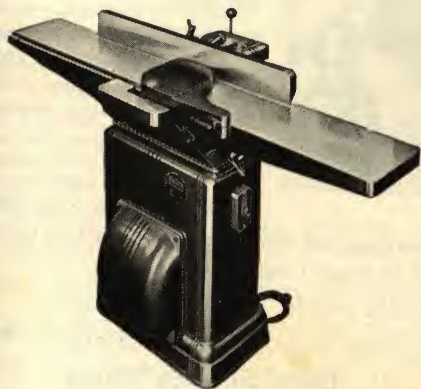
Overall dimensions of jointer only: length, 37 1/2 inches; width, 14 inches; height, 10 inches.

Furnished, jointer and stand with 3 high speed steel knives, 2 way fence and dual control, 2 3/4 inch arbor pulleys, front safety guard, V-belt, 7-inch motor pulley.

Motor or switch not furnished.

	On Cast Iron Stand	On Steel Stand
No.	37-205	37-207
Each.	\$150.35	129.85
Weight..... pounds	238	190

Motor recommended, 1/2 or 1/2 hp.

No. 37-301 Delta 8-Inch Jointers**Motor Driven**

Cuts or rabbets 8 inches wide, 1/2 inch deep. Cutterhead mounted in sealed, lubricated ball bearings. Overall table surface, 9 3/4 inches wide by 60 inches long. Table working height, 34 1/8 inches. V-type table ways.

Rabbeting arm: 4 inches wide by 11 1/4 inches long. Scale indicates depth of rabbet. Rigid cast iron fence, 4 inches high by 34 inches long; fence tilts 45° right and left. Cutting circle, 3-inch diameter. Cutterhead speed: 4100 rpm.; 16,400 cuts per minute.

Complete with stand, four high-speed steel knives, 2-way tilting fence, 2 1/4-inch o.d. arbor pulley, 5 1/4-inch o.d. motor pulley with 3/4-inch bore, 57-inch V-belt, safety cutterhead guard, belt guard, chip chute, motor plate and motor cover.

Overall dimensions: width, 24 1/4 inches; height, 39 inches; length, 60 1/4 inches.

Shipping weight, 540 pounds.

No. 37-301, without Motor or Switch.....each **\$364.50**

No. 22-101 Delta 13-Inch Wood Planers

Capacity, maximum width, 13 inches; maximum thickness, 5 inches. Maximum depth of cut, 1/2 inch. Each complete turn of hand-wheel raises or lowers table 1/8 inch; self-locking mechanism locks table to desired height.

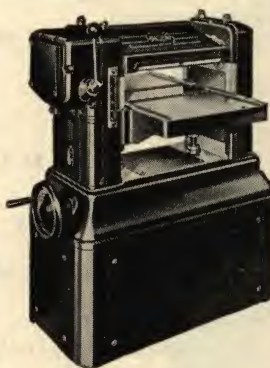


Table size, 13-inch width; 26-inch depth.

Feed drive mechanism is fully enclosed within gear box. Positive, powerful drive consists of continuous anti-friction roller chain which connects solid steel sprockets of out-feed and in-feed rolls. Drive chain is driven by a double worm gear reduction drive which in turn is driven by cutter head.

V-belt cutter head drive.

Serrated in-feed and smooth out-feed rolls of stress-proof solid steel; 1 3/4-inch diameter.

Two table rolls (idlers) of

steel tubing, 5 1/2 in. apart.

Cutter head is complete with matched set of three 13 1/8-inch long high speed steel knife blades. Safety cutter head made from stress proof solid steel, 2 3/4-inch diameter; cutting circle, 2 3/8-inch diameter; speed, 4200 rpm.

Rate of feed: lineal feet per minute, 14; 168 inches of stock cut per minute; 75 cuts per inch of feed; 210 cuts per second; 12,600 cuts per minute.

Minimum capacities: thinness, 1/8 inch; length, without follower or unbutted, 6 inches.

Furnished without motor; 3-hp. motor recommended.

Width of base, 30 inches; depth of base, 16 inches.

Overall: width, 35 in.; depth, 26 in.; height 39 3/4 in.

Weight, complete with sub-base assembly, 555 pounds.

No. 22-101, Ship. Weight, 595 Pounds.....each **\$495.00**

No. 46-305 Delta 12-Inch Wood Turning Lathes

A production type woodworking lathe having many industrial applications. Adapted to take V-belt drive from bottom or rear.

Headstock of cast iron. Fitted with belt guard. Built-in indexing mechanism.

Full 1 1/4-inch diameter spindle

with 5/8-inch hole through center to facilitate repetition work. Nose machined No. 2 Morse taper for centers. Threaded 1-inch diameter, 8 threads per inch for chucks and faceplates.

Rear end of spindle with 1-inch, 8 thread, left hand thread for outboard work. Spindle carried on two heavy duty double-seal new departure ball bearings, preloaded to insure maximum rigidity and accuracy. Speeds: 900, 1400, 2200, 3400 rpm.

Tailstock, substantial, fine-grained cast iron body, with sub-base and provision for set-over of tailstock for center alignment and taper turning. Locked to bed with hand lever. Tailstock sleeve operated with large ball end lever actuating lock cams. Sleeve machined for No. 2 Morse taper centers. Centers self-ejecting.

Equipped with quick acting, universal tool rest base; 4 and 12 inch tool rests.

Length, 57 inches. Height, 46 inches. Depth, 20 inches. Furnished with belt and accessories, lathe bench with cast legs and motor pulley; without motor or switch rod.

No. 46-305, Weight, 254 Poundseach **\$146.95**

Nos. 82-710 or 86-720 motors recommended for this lathe.

Delta Lathe Accessories

For 11 and 12-Inch Lathes and Lathes with
No. 2 Morse Taper Spindles

**No. 933 Drive Centers**

Has replaceable pin.
Weight, $\frac{5}{8}$ pound.

No. 933.....each \$2.75

**No. 934 Cup Centers**

Has replaceable pin.
Weight, $\frac{5}{8}$ pound.

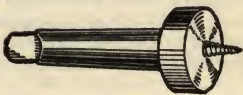
No. 934.....each \$1.75

**No. 939 Plain Centers**

Hardened and accurately ground.

Weight, $\frac{3}{4}$ pound.

No. 939.....each \$1.95

**No. 940 Screw Centers**

Has replaceable $1\frac{1}{2}$ -inch
screw. Weight, 1 pound.

No. 940.....each \$2.50

**Screw-On Arbors**

No. 144 has right hand screw; No. 145, left
hand screw. Weight, 1 pound.

No. 144, Right Hand.....each \$2.75

No. 145, Left Hand.....each 2.75

**No. 968 Geared Chucks**

No. 2 Morse Taper Shank.

Capacity, $\frac{1}{2}$ -inch.

Weight, $2\frac{1}{2}$ pounds.

No. 968.....each \$10.00

**No. 936 Faceplates**

Has right hand threads.

Size, 3 inches.

Weight, 1 pound.

No. 936.....each \$1.40

**No. 937 Faceplates**

Has right and left hand threads.

Size, 6 inches.

Weight, 3 pounds.

No. 937.....each \$2.95

**No. 692 Tool Rests**

Size, 12 inches. Weight, 3 pounds.

No. 692.....each \$1.60

**No. 690 Tool Rests**

Size, 4 inches.

Weight, $1\frac{3}{4}$ pounds.

No. 690.....each \$1.00

**No. 695 Tool Rests**

A right-angle tool rest.

Weight, 3 pounds.

No. 695.....each \$1.95

**No. 694 Tool Rests**

Size, 24 inches.

Weight, 7 pounds.

No. 694....each \$3.50

**No. 697 Floor Stands**

For tool rests.

Weight, 44 pounds.

No. 697.....each \$15.00

Delta Turning Chisels
Carbide Tipped

Diamond lapped ready for use. Cuts free hand on all materials such as plexiglass, lucite, bakelite, fiber, wood, brass, bronze, aluminum, magnesium, copper, nickel, silver etc. on regular wood turning lathe at wood turning speeds. Requires no heavy compound tool rests or bulky expensive equipment. Has long cutting life and requires little or no sharpening.

Packed in individual cartons.

No.	For Small Fine Work		For Larger Heavy Work	
	46-801	46-802	46-803	46-804
Each.....	\$4.65	4.65	4.65	4.65
Style Nose.....	Square	Round	Square	Round
Size Nose.....inches	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{4}$
Weight.....pounds	$1\frac{1}{4}$	$1\frac{1}{4}$	$1\frac{1}{4}$	$1\frac{1}{4}$

Delta 4-Step Cone Pulleys



A die-cast pulley useful for a wide variety of power drives. For V-belts $\frac{1}{2}$ -inch wide, $\frac{3}{32}$ -inch thick and 45 degree angle. Pulleys may be used in pairs as listed in table below.

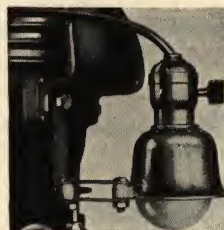
Furnished in $\frac{1}{2}$ -, $\frac{5}{8}$ and $\frac{3}{4}$ -inch bores. $\frac{1}{2}$ -inch furnished unless otherwise specified.

Bores of $\frac{5}{8}$ and $\frac{3}{4}$ -inch have a $\frac{3}{16}$ -inch keyway.

*For driven, \$1.45. †For driven, \$1.10.

COMBINATION Driver Driven		Each	SPEEDS WITH 1725 RPM. MOTOR			
No.	No.		900	1500	2200	3450
718	718	\$1.25	1200	1545	1890	2575
720	720	1.60	650	1000	1300	1725
718	*720	1.25	1725	2400	3400	5000
720	†718	1.60	900	1400	2200	3400
932	932	1.95	590	1275	2450	5000
985	985	2.00				

No. 882 Delta Lamp Attachments



Brings light to work where needed in volume enough for accuracy in following layouts, yet not bright enough to glare.

Furnishes every machine with its own illumination independent of shop lighting system.

Can be swung on the brackets of the scroll saw, drill press or band saw or can be easily and quickly attached to any other machine.

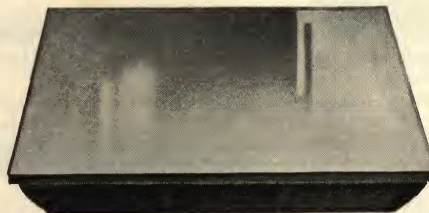
Can be swung out of the way by a touch of the finger.

Uses 15 or 25-watt bulb.

Weight, $1\frac{1}{2}$ pounds.

No. 882.....each \$2.95

Delta Surface Plates

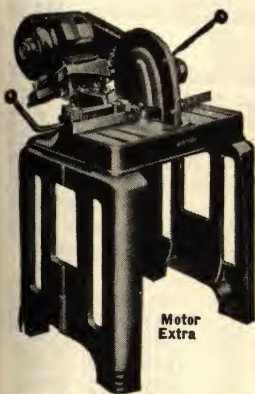


This surface plate has a true surface, a properly ribbed casting, ledges at the edges of the plate for clamping purposes, and edges that are machine

square with each other and with the face.

Plate may easily be made into precision plate by simply scraping to a master plate or to each other.

No.	640	641
Each.....	\$25.00	32.50
Size.....inches	15x18x3	16x22x3
Shipping Weight.....pounds	72	82

Delta Abrasive Cutoff Machines**Motor Driven**Motor
Extra

Used in shops, and factories where material must be cut to exact length on a production basis. On metal this machine leaves the cut with a polished surface. Widely spaced Timken roller bearings used in the pivot assembly. Circular table and wheel swing left and right to a full 90° range of cut. Large, convenient scale plate at front provides for accurate settings. Table is slotted for clamping jigs and fixtures. Arbor travels at 4000 rpm. and is mounted on lubricated, sealed ball bearings which are preloaded into a diamond bored and completely machined cartridge. The arbor cartridge

assembly is held in the same main arm casting which holds the Timken roller pivot bearings assuring perfect alignment. Power is transmitted by means of a 3 V-belt Texrope drive. Pulleys are machined out of solid steel and dynamically balanced.

Cutting capacity with abrasive wheel: high speed steel bars and sections up to the equivalent of $\frac{3}{4}$ -inch solid round stock; cold rolled steel bars and sections up to the equivalent of $\frac{3}{4}$ -inch; steel tubing up to $1\frac{1}{4}$ inches in diameter up to a wall thickness of approximately $\frac{3}{32}$ inch can be cut fast and clean using an abrasive wheel.

Spindle speed, 4000 rpm. with surface speed of 10,500 feet per minute. Diameter of wheel, 10 inches. Arbor hole, $\frac{5}{8}$ inch. Wheel collars with $3\frac{1}{2}$ and 5-inch diameters furnished. Height of table from floor, 32 inches. Width, 30 inches; depth, 35 inches; height, 47 inches.

Furnished with wheel guard, belt guard, chip guard, collars and fence with stop; pair of cast iron legs, universal clamp fixture; 3 V-Belts, motor pulley. Without abrasive wheel, motor or switch.

Weight, 570 pounds.

No. 20-210, For 60 Cy. or D.C. Service.....each \$273.10

No. 20-211, For 50 or 25 Cy. Service.....each 274.85

Motors

N.E.M.A. Frame—3 Hp. 220/440 Volts, 3 Phase—A.C.

No. 97-320, 50/60 Cycles.....each \$114.95

Manual Starter for 3-Hp. Motor

No. 1328, 3 Phase; Weight, 8 Pounds.....each \$18.35

Accessories**Replacement V-Belts**

No.	Each	Description	Wt. Lb.
294	\$1.30	For 6-Inch Motor Pulley (3 Req.).....	$\frac{1}{2}$
501	1.25	For 7-Inch Motor Pulley (3 Req.).....	$\frac{1}{2}$

Abrasive Wheels

1615	\$2.50	For Soft and Hard Steel and Hard Brass Size, $\frac{3}{8}$ x10 Inches.....	$\frac{1}{2}$
1616	2.50	Same as No. 1615 and for Use Where Less Burr Is Permissible. Size, $\frac{1}{8}$ x10 In.....	$\frac{1}{2}$
1617	2.50	For All Steels and Hard Bronze Where Maximum Life of Wheel is Required and Burr is Permissible. Size, $\frac{3}{8}$ x10 In.....	$\frac{1}{2}$
1619	2.25	For Thin Steel Tubing and Molding Where Little or No Burr is Permissible. Size, $\frac{1}{16}$ x10 Inches.....	$\frac{1}{2}$

No. 20-840 Coolant Pans

Can be used with the abrasive or cutoff machine for wet cutting. Consists of a pan which is inserted between the legs and base of the machine. Includes the necessary spray nozzle and splash control accessories ready to attach to the user's pump, tank and supply line. User can easily install control valve to regulate coolant stream.

Furnished complete with spray nozzle, splash control accessories, deflector plate, deflector bracket, cap-screws and machine bolts. Without piping and reducer from $\frac{3}{4}$ to $\frac{1}{2}$ inch.

Weight, 145 pounds.

No. 20-840.....each \$84.50

No. 43-205 Delta Reversible Shapers**Ball Bearing—Floor Type—Motor Driven
With Fully Adjustable Fence**

An ideal machine for the cabinet shop, furniture factory, specialty woodworking shop and novelty manufacturer.

Large husky spindle, exceptionally large table, long spindle and spindle travel, large sealed-for-life bearings, powerful V-belt drive, interchangeable spindles, fully adjustable fence and strong, sturdy welded cabinet.

Shaper furnished with fence, spindle, table insert, starting pin, wrenches and spindle pulley, rear table extension, V-belt and motor pulley. Without motor, switch, reversing switch or cutters.

No. 43-205.....	each	\$209.50
Height of Table from Floor.....	inches	34
Size Table.....	inches	27x28
Table Size With Back Wings.....	inches	27x36
Spindle Diameter.....	inches	$\frac{3}{4}$
Capacity of Spindle (Under Nut).....	inches	$\frac{3}{4}$
Spindle Travel.....	inches	3
Spindle Speed.....	rpm.	10,000
Largest Cutting Circle.....	inches	6 $\frac{1}{2}$
Motor Drive up to.....	hp.	1 $\frac{1}{2}$
Size of Fence, Each Side.....	inches	3 $\frac{3}{4}$ x12 $\frac{3}{8}$ x1 $\frac{5}{16}$
Shipping Weight.....	pounds	340

Motors and Switches

All motors have $8\frac{1}{2}$ -inch frame, $\frac{3}{4}$ inch shaft. Shipping weight, 85 pounds.

Be sure to order the proper on and off switch and its mounting parts. Switch consists of switch box, power cord and plug and motor lead wire.

1-Hp. Repulsion-Induction Motor—115/230 Volts, 60 Cycles A.C.

Furnished with reversing switch.

No.....	85-080
Each.....	\$85.00
No. 132, On and Off Switch, Extra.....	each 4.25
Speed.....	rpm. 3450

**3-Phase Motor—220/440 Volts, 50/60 Cycles,
2850/3450 RPM.—A.C.**

No.....	86-921	87-121
Each.....	\$78.65	\$95.70
No. 1320, On and Off Switch, Extra.....	each 14.70	14.70
No. 1327, Mounting Parts, Extra.....	each 1.75	1.75
No. 1325, Reversing Switch, Extra.....	each 11.00	11.00
Hp.....	1	1 $\frac{1}{2}$

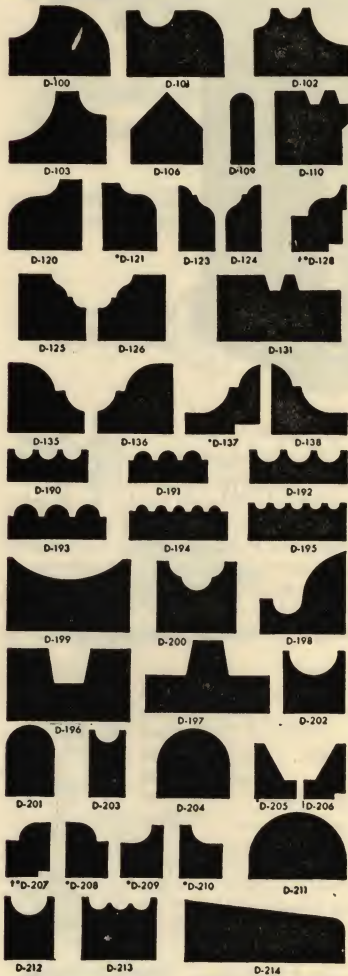
Note: d.c., 25 and 50-cycle motors not carried in stock. Prices and information on application.

Catalog covering available accessories on application.



Three-lip cutters for making moulding shapes have involute relief; honing the face does not change shape. Collars for use with cutters are ground to size.

No. 1347, 1/2-in. spindle, needed with these cutters.



No. D-100, 1/2-In. Cove, 5/16-Inch Quarter Round...each \$2.25
No. D-101, 5/16-Inch Cove, 3/8-Inch Bead.....each 2.25

Delta Shaper Accessories: Individual and Sets

No. 980 3-Lip Cutter, 5/16" Hole; Set of 24 Edge Cutters, D-1 to D-80, with No. 978 Adapter and 6 Collars; for Use on No. 1346 Spindle; in Wood Box; Weight, 2 Pounds.ea. \$31.50

Shaped Cutters with 1/2-Inch Hole

No. D-102, 1/8 and 3/8-Inch Quarter Round, 1/4-Inch Bead...each	\$2.25
No. D-103, 1/4 and 1/2-Inch Quarter Round.....each	2.25
No. D-106, 90° Flute.....each	2.00
No. D-109, 1/4-In. Flute.....each	1.35
No. D-110, Drawer Joint.....each	2.25
No. D-120, Ogee.....each	2.00
*No. D-121, Female Sash.....each	2.00
No. D-123, Cab. R. H. Male...each	1.75
No. D-124, Cab. L. H. Male...each	1.75
No. D-125, Cab. R. H. Fem...each	2.00
No. D-126, Cab. L. H. Fem...each	2.00
*†No. D-128, Male Sash.....each	2.00
No. D-131, Glue Joint.....each	2.50
No. D-135, Cove and Bead Moulding Left Hand.....each	2.00
No. D-136, Cove and Bead Moulding Right Hand.....each	2.00
†No. D-137, Cove and Bead Cope Right Hand.....each	2.00
No. D-138, Cove and Bead Cope Left Hand.....each	2.00
No. D-190, 3-Bead (3/16-Inch Bead).....each	2.00
No. D-191, 3-Flute (3/16-Inch Flute).....each	2.00
No. D-192, 3-Bead (1/4-Inch Bead).....each	2.25
No. D-193, 3-Flute (1/4-Inch Flute).....each	2.25
No. D-194, 5-Flute (1/2-Inch Flute).....each	2.25
No. D-195, 5-Bead (1/8-Inch Bead).....each	2.25
No. D-196, Wedge Tongue...each	2.50
No. D-197, Wedge Groove...each	2.50
No. D-198, Ogee and Bead Table Edge.....each	2.50
No. D-199, 1-In. Convex Edge ea.	2.50
No. D-200, Clover Leaf Screen Moldg. (3/32x3/16 In.).....each	2.00
No. D-201, 1/2-Inch Flute...each	1.75
No. D-202, 1/2-Inch Bead...each	2.00
No. D-203, 1/4-Inch Bead...each	1.75
No. D-204, 3/4-Inch Flute...each	2.00
No. D-205, Pgee R. H.....each	1.75
†No. D-206, Pgee L. H.....each	1.75
*†No. D-207, Cove Sash L. H...each	1.75

Standard Cutter Sets

No. 1182. Standard Cutter Set with Nos. D-100 to D-109, Incl. and Nos. D-142 to D-149 Collars, Incl.; in Wood Box; Weight, 3 1/2 Lb....per set \$23.65

No. 1213. Cove and Bead Cutter Set with Nos. D-129, D-135 to D-139 Cutters, Incl.; Nos. D-132 and D-134 Collars; with No. 1345 Stub Spindle Assembly, No. SP-10 Wrench; wt., 2 Lb.....per set 15.55

No. 1214. Sash and Cab. Cutter Set with Nos. D-108, D-120, D-121, D-123 to D-128 Incl. and No. D-130 Cutters; Nos. D-140, D-141, D-150 and D-151 Collars; with No. 1345 Stub Spindle Assembly and No. SP-10 Wrench; Weight, 3 Lb.....per set 23.70

No. 1210. Set of 7 Collars, 3/4 to 1 1/8-In. Diam.: Nos. D-142, D-143, D-144, D-145, D-171, D-172 and D-173; Weight, 3/4 Lb.....per set \$2.80

No. 1211. Set of 6 Collars, 1 1/16 to 1 1/2-In. Diam.: Nos. D-141, D-146, D-147, D-148, D-174 and D-175; Weight, 1 Pound.....per set 2.70

No. 1212. Set of 6 Collars, 1 1/16 to 1 7/8-In. Diam.: Nos. D-149, D-176, D-177, D-178, D-179 and D-180; Weight, 1 1/2 Pounds.....per set 3.25

*No. D-208, Cove Sash R.H...each	\$1.75
*No. D-209, Bead Sash L.H...each	1.75
*No. D-210, Bead Sash R.H...each	1.75
No. D-211, 1-Inch Flute.....each	2.25
No. D-212, 3/8-Inch Bead.....each	1.75
No. D-213, Beaded Screen Moulding.....each	2.00
No. D-214, Panel Raising...each	2.50

Straight Cutters with 1/2-In. Hole

No.	Each	Width.	Diam.	No.	Each	Width.	Diam.
D-104	\$2.25	1	1 7/8	D-127	\$1.75	3/8	1 15/16
D-105	2.75	1 1/2	1 7/8	D-129	1.75	3/8	2 1/2
D-107	1.35	1 1/2	1 7/8	*D-130	2.00	3/4	1 7/8
D-108	1.35	1/4	1 15/16	D-139	1.75	1/4	2 1/2

Spacing Collars for Shaper Cutters with 1/2-Inch Hole



No.	Each	Thick-ness	O.D.	No.	Each	Thick-ness	O.D.
D-132	\$.40	3/8	1 5/8	D-151	\$.60	1/4	1 7/8
D-133	.45	1/8	1 3/16	D-155	.35	1/4	3/4
D-134	.40	1/4	1 5/8	D-171	.40	3/8	1 5/8
D-140	.40	1/4	1 3/16	D-172	.40	3/8	1 5/8
D-141	.40	3/8	1 3/16	D-173	.40	3/8	1 1/16
D-142	.40	3/8	3/4	D-174	.45	3/8	1 1/4
D-143	.40	3/8	7/8	D-175	.45	3/8	1 1/16
D-144	.40	3/8	1	D-176	.45	3/8	1 1/8
D-145	.40	3/8	1 1/8	D-177	.50	3/8	1 1/8
D-146	.40	3/8	1 1/4	D-178	.60	3/8	1 1/4
D-147	.50	3/8	1 3/8	D-179	.50	3/8	1 1/8
D-148	.50	3/8	1 1/2	D-180	.60	3/8	1 1/8
D-149	.60	3/8	1 3/4	D-215	.40	1/4	1 15/16
D-150	.45	3/16	1 3/8	D-217	.40	1/4	1 3/4

No. 1343, 3-Knife Safety Cutter Heads



Made of alloy steel. Bushing furnished so that cutterhead fits 1/2 or 3/4-in. spindle. Uses various moulding knives which can be fur-

nished in number of styles and sizes. Without knives.

No. 1343, Ship. Wt., 1 1/2 Lb...ea. \$5.95

No. D-205-S. Pgee Door Assembly Set with Nos. D-205 and D-206 Cutters and No. D-217 Collar.....per set \$3.90

No. D-206-S. Pgee Door Assembly Set with Nos. D-205, D-206, and D-108 Cutters.....per set 4.85

No. D-208-S. Cove Cutter Assembly with Nos. D-207 and D-208 Cutters and Nos. D-133 and D-215 Collars.....per set 3.90

No. D-210-S. Bead Sash Cutter Assembly with Nos. D-209, D-210 and D-108 Cutters.....per set 4.85

NOTE: if user does not have 1/2-inch spindle for shaper, order one No. 1347, 1/2-inch spindle.

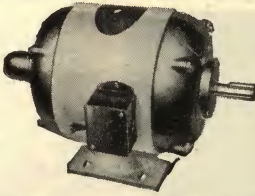
Shaper Collar Sets

No. 1191. Set of 4 Collars for Sash Cutters: Nos. D-140, D-141, D-150 and D-151; Weight, 1/2 Pound.....per set \$1.85

No. 1198. Set of Table Inserts with Guide Shoulders: No. SR-253, 2 3/8-In. Diam. and No. SR-254, 1 5/8-In. Diam.; Weight, 1/8 Lb.....per set .95

*For sash work. †Counterbored to fit No. 1345 stub spindle.

Delta General Purpose Motors



Ball bearing unless otherwise specified. Single-phase motor has switch, cord and plug unless otherwise specified. Three-phase motor requires manual or magnetic starter.

Single-Shaft Motors
6-Inch Frame—1/2-Inch Shaft—A.C.

Split Phase

No.	Each	Hp.	Volts	Cycles	RPM.	Ship. Wt. Lb.
*60010	\$18.50	1/3	110	60	1725	29
†60040	24.95	1/3	115	60	1725	26

Capacitor Type

†62210	\$44.95	1/2	115	60	3450	30
Capacitor with 5/8-In. Shaft; 8-Ft. Cord and Toggle Switch						
†62250	\$54.45	3/4	115/230	60	3450	38
†62650	43.75	1/2	115/230	60	1725	38

Double-Shaft Motors
6-Inch Frame, 1/2-Inch Shaft
Capacitor—A.C.

62110	\$34.95	1/3	115/230	60	1725	36
62610	50.00	1/2	115/230	60	1725	38

3-Phase—A.C.

66320	\$45.95	1/2	220/440	50/60	1425/1725	28
66321	56.00	1/2	220/440	50/60	2850/3450	38

D.C.

68110	.....	1/3	115	..	1725	32
68120	.....	1/3	230	..	1725	32
68310	.....	1/2	115	..	3450	35
68320	.....	1/2	230	..	3450	38

Double-Shaft and Ball Bearing Motors

Single-phase motor includes switch, cord and plug.

8 1/2-Inch Frame—3/4-Inch Shaft

Capacitor Type—A.C.

82710	\$61.75	1/2	115/230	60	1725	49
82910	73.00	3/4	115/230	60	1725	70

Repulsion-Induction—A.C.

84910	\$93.50	1	115/230	60	1725	85
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3-Phase—A.C.

86520	\$58.00	1/2	220/440	50/60	1425/1725	44
86720	65.50	3/4	220/440	50/60	1425/1725	51
86920	83.00	1	220/440	50/60	1425/1725	63
86921	78.65	1	220/440	50/60	2850/3450	63
86922	98.00	1	220/440	50/60	960/1140	66
87120	92.40	1 1/2	220/440	50/60	1425/1725	80

D.C.

88510	.....	1/2	115	..	1725	70
88520	.....	1/2	230	..	1725	70
88511	.....	1/2	115	..	1140	70
88521	.....	1/2	230	..	1140	70
88710	.....	3/4	115	..	1725	74
88720	.....	3/4	230	..	1725	74

NEMA Frame 225—1-Inch Shaft—3-Phase—A.C.
Single Shaft and Ball Bearing

97320	\$114.95	3	220/440	50/60	1425/1725	125
97420	159.50	3	220/440	50/60	1425/1725	130

*Bronze bearing motor without switch, cord and plug.

†Ball bearing motor with switch, cord and plug.

‡With cord and plug; without switch. Designed for use with No. 43-110 shaper, No. 49-316 reversing switch should be specified.

§If not carried in stock; information on request.

||D.c., 25 and 50-cycle motors, prices on application.

¶Full enclosed. Not carried in stock; information on request.

Delta Motor Switches and Accessories

No. 132 Switch for Single-Phase Motors



On and off switch, power cord and plug and motor lead wire for all single phase motors on No. 28-205, No. 28-305, No. 31-506, No. 34-305, No. 34-405, No. 34-407, No. 37-205, No. 43-205. No. 132; Ship. Wt. 1 1/2 Lb.each \$4.25

Toggle Switches for Single-Phase Motors

No. 1115



For use on single-phase motor. Breaks both sides of the line. Shipping weight, 1/2 pound.

No. 1115each \$1.40

No. 49-312

3-wire cord with toggle switch, clamp, cord plug. No. 49-312each \$3.30

Reversing Switches

No. 49-316



With connected 4-wire cord for use on capacitor motor or any standard split-phase motor. No. 49-316; Ship. Wt., 2 Lb.each \$10.00

No. 1325

For 3-phase or d.c. motors. No. 1325; Ship. Wt. 4 Lb.each \$11.00



No. 1325

Allen Bradley 3-Phase Manual Starters
No. 1320

For all a.c. motors up to 2 hp., d.c. up to 1 hp. Shipping weight, 6 pounds.

No. 1320each \$14.70

No. 1328

For motors up to 3 horsepower. Shipping weight 8 pounds. No. 1328each \$18.35

Across-The-Line Magnetic Starters

A 3-phase starter with overload and under voltage protection, stop, start and reset button mounted in cover, and relays for motors up to 2 horsepower for 440 volts, 60 cycles only. Shipping weight, 6 pounds.

No. 1321, 440 Voltseach \$29.40

No. 1329, 220 Voltseach 29.40

No. 1323 Magnetic Starters

A 3-phase starter with overload and under voltage protection up to 2 horsepower for 550 volts. Ship. weight, 6 lb.

No. 1323each \$29.40

Motor Cords

No. 49-307



Cord and plug for 1/4 and 1/2-horsepower single phase motors.

Shipping weight, 1 pound.

No. 49-307each \$1.15



No. 1119

No. 1119

Cord and plug for 1/2, 3/4 and 1-hp. single-phase motors. No. 1119; Ship. Wt., 1 1/4 Lb.each \$2.50

Mounting Parts

Shipping weight, 2 pounds.

No. 1322



For installing No. 1320 3-phase manual starter on drill presses and steel stands.

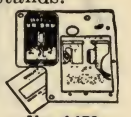
No. 1322each \$1.25

No. 1327



For mounting No. 1320 manual starter on No. 43-205 shaper.

No. 1327each \$1.75

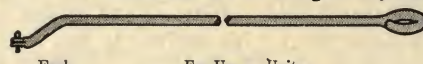


No. 1459

No. 1459

For mounting No. 1320 manual starter on Unisaw. No. 1459each \$2.25

Switch Rods For Finger-Tip Control



No.	Each	For Use on Units	Wt., Lb.
1330	\$.75	Nos. 28-207 and 34-307	1 1/2
1331	.75	All 14-Inch Drill Presses	1 1/2
1332	.75	All 17-Inch Drill Presses	1 1/2
1333	.75	No. 37-207	1 1/2
1334	.75	No. 28-207 Band Saw, No. 31-505 Abrasive Belt Machine, No. 28-307 Band Saw, No. 37-595 Combination Unit, No. 46-305 Lathe and All Benches with Wood Tops.	1 1/2

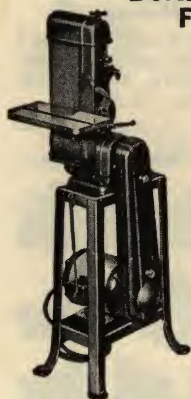
Delta 6-Inch Belt Abrasive Finishing Machines

Motor Driven

Machine operates vertically as well as horizontally. Completely ball bearing equipped.

Cloth-backed sanding belt, 6 inches wide by 48 $\frac{1}{16}$ inches long. Tilting table, 7x15 inches with $\frac{3}{8}$ x $\frac{3}{4}$ -inch groove for miter gage is available for use in vertical position.

Furnished complete with No. 1414 aluminous oxide belt, tilting table, belt guard, V-belt, and motor pulley. Motor or switch not furnished.



No. 31-505



No. 31-506

No. 31-506, With Cast Iron Stand; Wt., 205 Lb. each \$156.70
No. 31-505, With Steel Stand; Weight, 124 Lb. each 133.35

Motor Recommendations: LIGHT DUTY: No. 82-710— $\frac{1}{2}$ hp., a.c., 115/230 volts, 60 cy.; No. 86-520— $\frac{1}{2}$ hp., 3 phase, a.c., 220/440 volts, 50/60 cy. MEDIUM DUTY: No. 82-910— $\frac{3}{4}$ hp., a.c., 115/230 volts, 60 cy.; No. 86-720— $\frac{3}{4}$ hp., 3 phase, a.c., 220/440 volts, 50/60 cy. HEAVY DUTY: No. 84-910—1 hp., repulsion-induction, a.c., 115/230 volts, 60 cy.; No. 86-920—1 hp., 3 phase, a.c., 220/440 volts, 50/60 cy.; No. 87-120— $1\frac{1}{2}$ hp., 3 phase, a.c., 220/440 volts, 50/60 cy.

No.	Each	Accessories Description	Wt. Lb.
595	\$1.45	Replacement V-Belt.....	1
1414	1.45	6-In. Al. Ox. Belt for Metal, 100 Grit. Fine	1
1415	1.60	6-In. Al. Ox. Belt for Metal, 50 Grit. Coarse	1
1403	3.00	Backstop, Complete with Bracket.....	4
1410	5.00	Wood Fence, $3\frac{3}{4}$ x17 $\frac{1}{2}$ In., with Brackets.	5
1412	1.50	6-In. Garnet Belt for Wood, 80 Grit. Fine	1
1413	1.60	6-In. Garnet Belt, 40 Grit. Coarse.....	1
864	5.75	Miter Gage.....	4 $\frac{1}{2}$

No. 31-105 Delta 12-Inch Abrasive Disc Finishing Machines

Motor Driven

Has 12-inch diameter disk. Suited for wood sanding operations.

Has tilting table, sealed-for-life bearings and disk specially machined to insure proper adhesion of abrasive disk.

Dimensions: Bench model; 19 inches wide, 13 $\frac{1}{2}$ inches high and 23 inches front to rear. Floor model on steel stand; 19 inches wide, 45 inches high, 23 inches front to rear. Table is 9 $\frac{3}{4}$ x16 $\frac{1}{4}$ inches; polished surface with a $\frac{3}{8}$ x $\frac{3}{4}$ inch groove for No. 864 miter gage. Table tilts 45° to front and 20° to back. Tilt gage on front trunnion. Table carried on rigid, well designed trunnions with large convenient trunnion lock knobs.

Machine furnished with tilting table, abrasive disk and steel stand. Without motor.

No. 31-105, Weight, 123 Pounds..... each \$62.75

Motor Recommendations: LIGHT DUTY; No. 82-710— $\frac{1}{2}$ hp., a.c., 115/230 volts, 60 cy.; No. 86-520— $\frac{1}{2}$ hp., 3 hp., a.c., 220/440 volts, 50/60 cy. MEDIUM DUTY; No. 82-910— $\frac{3}{4}$ hp., a.c., 115/230 volts, 60 cy.; No. 86-720— $\frac{3}{4}$ hp., 3 ph., a.c., 220/440 volts, 50/60 cy. HEAVY DUTY; No. 84-910—1 hp., R.I., a.c., 115/230 volts, 60 cy.; No. 86-920—1 hp., 3 ph., a.c., 220/440 volts, 50/60 cy.

No.	Each	Accessories Description	Wt., Lb.
49-505	\$.75	Disc Adhesive, for Applying Disk...	1
864	5.75	Miter Gage for $\frac{3}{8}$ x $\frac{3}{4}$ -Inch Groove...	4 $\frac{1}{2}$
1427	*1.80	12-Inch Garnet Disk, Medium Grit...	3

*Per package of 6.

For 3 hp. motor use No. 1320 3 ph. manual or No. 1329 magnetic starter and No. 1322 mounting parts.

Delta Sanding Drums and Abrasive Sleeves



No. 830

No. 830 Drum

Size 3-inch diameter by 3-inch drum, with one sleeve. Fits $\frac{1}{2}$ -inch diameter shaft. Weight, 2 pounds.

No. 830.....each \$4.25

Sleeves

Packed 6 in a box. Shipping weight per 6, 8 ounces.

No. 831, Coarse Garnet.....per box \$1.10
No. 832, Medium Garnet.....per box 1.10
No. 833, Aluminous Oxide (for metal).....per box 1.60

No. 835 Drum

Size 1 $\frac{3}{4}$ -inch diameter by 2-inch drum, with one sleeve. Fits $\frac{1}{2}$ -inch diameter shaft. Weight, 1 $\frac{3}{4}$ pounds.

No. 835.....each \$2.75

Sleeves

Packed 6 in a box. Shipping weight per 6, 4 ounces.

No. 836, Medium Garnet.....per box \$.90
No. 837, Fine Garnet.....per box .90
No. 838, Aluminous Oxide (for Metal).....per box 1.00

No. 840 Drum

Size $1\frac{1}{16}$ -inch diameter by 2 $\frac{1}{2}$ -inch drum, with one sleeve. Has $\frac{1}{2}$ -inch shank to fit hollow spindle or chuck. Weight, 8 ounces.

No. 840.....each \$1.50

Sleeves

Packed 6 in a box. Shipping weight per 6, 4 ounces.

No. 841, Medium Garnet.....per box \$.90
No. 842, Fine Garnet.....per box .90
No. 847, Aluminous Oxide (for Metal).....per box 1.00

Abrasive Sleeves for Narrow Sanding Drums

Made of aluminous oxide. Packed 6 in a box.

No.	682	683	684	685	686	687
Per box.....	\$.75	.75	.75	.75	.85	.85
Diameter.....inches	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2 $\frac{3}{16}$	2 $\frac{3}{16}$	3	3
Width.....inches	1	1	1	1	1	1
Grit.....	40	80	40	80	40	80
Ship. Wt.....pounds	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$

Rust Remover and Stop-Rust



Rust Remover



Stop-Rust

Rust Remover is a non-inflammable liquid that removes rust and cuts grease and oil from iron and steel. Also cleans and conditions copper, brass, aluminum, zinc die castings, galvanized iron, steel and iron. Ready to use—apply with spray, brush, steel wool or cloth. Supplied in bottles.

Stop-Rust is a rust preventive which eliminates formation of rust or oxidation when applied to any clean, polished metal surface. It has many uses. It is not oil or sticky. Supplied in cans.

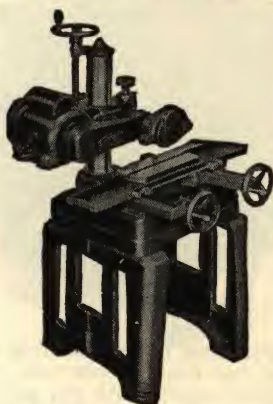
No.	49-320	49-321	49-322	109	*110
Each.....	\$.55	2.75	4.25	.75	7.75
Size Container.....	$\frac{1}{2}$ Pt.	$\frac{1}{2}$ Gal.	1 Gal.	1-Pt.	12-Pts.
Ship. Weight.....lb.	1 $\frac{1}{2}$	7	15	1 $\frac{1}{4}$	16

*Case of twelve 1-pint cans.

No. 24-105 Delta Toolmaker Surface Grinders

Motor Driven

For ½ Hp. 1425 and 1725 RPM. Motor



For every type of surface grinding, in the tool room or in the production shop. Convenient controls, column can be rotated a full 360°. The wheel adapter can be removed with the wheel saving trueing-up operations. Also features fine adjustment and micro-settings.

SPECIFICATIONS: Maximum length that can be ground, 13½ inches. Maximum width that can be ground, 6 inches. Maximum space under 7-inch wheel to table, 11½ inches; to No. 510 B. & S. magnetic chuck, 8 inches. Maximum diameter cup wheel with standard guard in place, 3½ inches. Maximum diameter wheel, 7 inches. Wheels must have 1¼-inch hole. Table surface, 5¼x13 inches. Traverse feed, one graduation is .001 inch. Maximum vertical adjustment of wheel by means of micrometer is ⅜ inches, each graduation is .0005 inch.

Furnished with cast iron legs, wheel adapter, holder for wheel dresser, V-belt and two-step motor pulley (for 50 or 60 cycle service) with ½-inch bore, cast iron motor cover. Without wheel, diamond wheel dresser, light attachment, motor or switch.

No. 24-105, Shipping Weight, 670 Pounds. . . . each \$495.00

Motors

The cast iron motor cover furnished with machine will cover any 6-inch frame Delta motor and most 6 to 7-inch frame motors of other manufacture. Motor bracket is arranged with holes for fastening any 6-inch Delta motor, but pads are provided so holes can be drilled to suit other makes. When it is necessary to use larger frame motors of other makes the motor cover can be omitted.

No. 62-610, Capacitor Motor, ½ Hp., 115/230 Volts, 60 Cycles, 1725 RPM. each \$50.00

No. 66-320, 3-Phase Motor, ½ Hp., 220/440 Volts, 50 or 60 Cycles, 1425/1725 RPM. each 45.95
For 3-phase motors use No. 1320 manual or No. 1329 magnetic starter.

Accessories

Diamond Wheel Dressers

No. 24-805, Weight, ½ Pound. each \$8.50

Wheels

Diameter, 7 inches; face, ½ inch; bore, 1¼ inches. Shipping weight, 2 pounds.

No. 24-807, For Soft Material. each \$4.00

No. 24-808, For Hard Material. each 4.00

Light Attachment

No. 24-815, Complete for Attaching to Separate 115-Volt, Single Phase Line. Shipping Wt., 8 Lb. each \$7.50

Extra Wheel Adapter

No. 24-816, For 1¼-Inch Bore Wheels. Arranged to Fit on Tapered Spindle for Holding up to ½-Inch Wide Wheels. Also Has an Extra Washer so a 3½x1½-Inch Cup Wheel May Be Used. Shipping Weight, 2 Pounds. each \$6.00

Replacement V-Belt

No. 49-115, Shipping Weight, ½ Pound. each \$1.10

Delta Carbide Tool Grinders

Made in bench and pedestal models. Bench model can be made into pedestal model by bolting it to cast iron pedestal.



Reversing type motor with self sealed ball bearings is in head. Manually operated brakes on each wheel. Two 1x6-inch steel backed silicon carbide wheels, with a 1-inch face, and a 1¼-inch hole, are furnished, one of 60 grit and one 120 grit. Speed is 3450 rpm. with surface speed of 5200 feet per minute. Takes standard diamond wheels.

Tables are 13x7 inches. Tilt 30 degrees toward wheel and 45 degrees away from wheel and have ½x⅜-inch groove.

Sliding gage with a tilting head, heavy cast iron water pot with stop cock and copper tube, and adjustable light are furnished standard with grinder.

When manual starter with overload protection is desired for 3-phase or d.c. motors, No. 1320 manual starter can be used.

Single Phase Grinders with 6-Pole Switch

Bench Model			Pedestal Model			Motor		Speed RPM.
No.	Each	Ship. Wt. Lb.	No.	Each	Ship. Wt. Lb.	Volts	Cycles	
23-505	\$165.00	140	23-555	\$190.00	211	115	60	3450
23-506	165.00	140	23-556	190.00	211	115	50	2850
23-507	165.00	140	23-557	190.00	211	230	60	3450
23-508	165.00	140	23-558	190.00	211	230	50	2850

Three Phase Grinders with 6-Pole Switch

23-510	\$170.00	140	23-560	\$195.00	211	{ 220/ 50/ 2850/ 440 60 3450 }	
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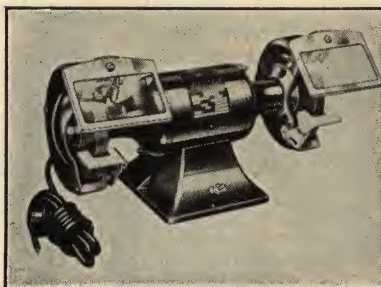
Direct Current Grinders with 6-Pole Switch

23-515	\$180.00	140	23-565	\$205.00	211	115 D.C.	3450
23-516	180.00	140	23-566	205.00	211	230 D.C.	3450

Delta 6-Inch Bench Grinders

½-Hp., 115-volt, 60-Cycle, A.C., 3450-RPM. Motor

For all-around grinding, polishing and buffing. Smooth running, vibration-free, balanced motor and grinding wheels permit accurate grinding and quiet operation. Fully adjustable, rigid tool supports, adequate room around wheels.



Safety shields of shatterproof glass available as accessories; fully adjustable.

Steel spark guard at top of each wheel; minimum of wheel exposed.

Extended end bells, motor housing and base are heavy cast iron castings.

Small motor housing permits grinding long piece on both wheels. Sealed-for-life ball bearings require no lubrication for life of bearings; protected against dust and grit.

Wheels, 6-inch diameter; ¾-inch wide; ½-inch hole.

Arbor size, ½-inch diameter; 20 threads per inch.

Width: with eyeshields, 20 inches; without, 18 inches.

Height, 9 inches. Depth, 8 inches. Weight, 42 pounds.

Furnished with motor, wheel guards, spark shields, tool rests, toggle switch, 8-foot 3-wire cord with plug and ground wire terminal, No. 23-826, 36-grit abrasive wheel, and No. 23-827, 60-grit abrasive wheel, without eyeshields.

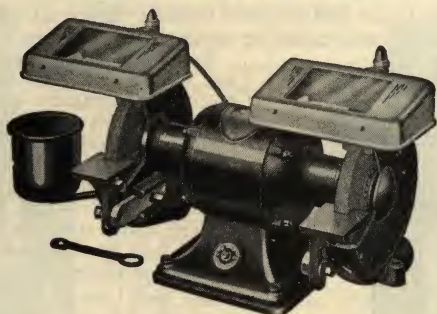
No. 23-625, Complete as Described. each \$44.95

No. 23-826, 6-Inch Diameter x ¾-Inch Wide, 36-Grit Abrasive Wheel with ½-Inch Hole. each 2.45

No. 23-827, 6-Inch Diameter x ¾-Inch Wide, 60-Grit Abrasive Wheel with ½-Inch Hole. each 2.45

No. 23-800, Pair of Eyeshields, with Mounting Brackets and Attachment Screws. each 3.75

Delta Bench Grinders



This efficient, motor-driven bench grinder incorporates the following features:

- | | |
|--------------------------------|--|
| Twin-Lite safety shields. | Freedom from vibration. |
| Sealed-for-life ball bearings. | Convenient water pot. |
| Strong wheel and spark guards. | Machined tool rests, fully adjustable. |
| Built-in toggle switch. | Wheels balanced to 1/10 inch ounce. |

The Twin-Lite safety shields flood both sides and face of the wheel making the grinder independent of shop lighting.

All numbers include motor, 1x7-inch 60N and 46M aluminum oxide wheels, Twin-Lite safety shields (with bulbs), water pot, tool rests, cord and plug. With toggle switch except No. 23-115, which has no switch.

No.	Each	Motor	Speed RPM.	Wt. Lb.
23-105	\$114.50	115/60 1/2 Hp. Single Phase...	3450	95
23-109	114.50	115/50 1/2 Hp. Single Phase...	2850	95
23-111	116.50	230/60 1/2 Hp. Single Phase...	3450	95
23-115	114.50	220/50/60 1/2 Hp. Three Phase...	2850/3450	95
23-112	116.50	230/50 1/2 Hp. Single Phase...	2850	95
23-120	140.00	115 D.C. 1/2 Hp.	3450	95
23-121	140.00	230 D.C. 1/2 Hp.	3450	95

For grinders with other motors and switches, write for specifications and prices.

Delta 7-Inch Industrial Grinders

Motor Driven—Pedestal Type—Ball Bearings

A precision tool, with double-seal ball bearings and Twin-Lite safety shields. Grinder has a heavy, well proportioned cast iron base, 14 1/2 x 15 1/2 inches. Has one 4-inch water pot.



No. 23-405

Tool rests are fully adjustable, vertically and horizontally. Rests are 40 inches from the floor.

Nos. 60N and 46M aluminum oxide wheels, 1-inch face, 7-inch diameter, 5/8-inch hole, balanced to run true and vibrationless.

The wheel guards are made of heavy cast iron with steel side plates. Chute discharges dust to the rear.

Twin-Lite safety shields have double thickness shatter-proof glass. Each shield has two bayonet type lamps which flood both sides and face of wheels independent of shop lighting.

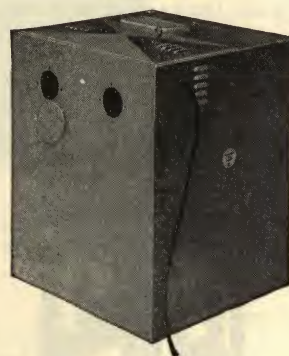
Has precision double-seal New Departure ball bearings.

No.	With Relay Switch		With Toggle Switch	
	23-415	23-405	23-409	23-420
Each	\$162.50	139.50	139.50	165.00
Motor: No. of Volts...	220	115	115	115 D.C.
Cycles	50/60	60	50	.....
Phase	3	1	1	.....
Speed	rpm. 2850/3450	3450	2850	3450
Ship. Wt.	pounds 181	166	166	166

Other motors and switches, information upon request.

Delta Portable Dust Collectors

1/2-Hp. Motor



For grinding, polishing, buffing, sanding, and other operations where metal dust must be collected. A self-contained, portable unit which collects both fine and coarse dust and particles. A powerful fan sucks dust and small particles through a perfected air filter. The larger particles fall into a pan at bottom and are easily removed. Universal in application with openings so located that it can be attached to all types of abrasive units. Has low air resistance; is completely fireproof. Cabinet is of grey pressed steel.

A large door on the back is removable for access to the filter, another at the top allows inspection of motor. The fan is a high efficiency unit of the squirrel-cage type and moves 350 cubic feet of air per minute. It develops a static suction of 4 inches. It has sealed-for-life ball bearings, located in a separate sealed compartment.

Where conditions warrant, woven glass filter is available for collecting flour fine dust.

Special attachment packages are required for use with various Delta machines. Shipping weight 140 pounds.

No.	*Each	Motor				
		Speed RPM.	Volts	Cycles	Current	Phase
49-520	\$165.00	3450	115/230	60	A.C.	Single
49-524	170.00	2850	115/230	50	A.C.	Single
49-521	165.00	2850/3450	220/440	50/60	A.C.	Three
49-522	202.00	3450	115	.....	D.C.	.....
49-523	214.00	3450	230	.....	D.C.	.....

*Without attachment fittings.

Extra Filters

- No. 49-529, Standard Filter to Replace Dirty Filter While It Is Being Cleaned; Ship. Wt. 12 Lb. ... each \$14.00
- No. 49-531, Filter Pad Holder with 2 Expanded Fiber Pads; Shipping Weight, 11 Pounds. each 6.00
- No. 49-532, 24 Expanded Fiber Filter Pads, Packed in Carton; Shipping Wt., 14 1/4 Pounds. ... per carton 14.00

Complete Attachment Packages

No.	Each	Type	Ship. Wt., Lb.
24-819	\$14.50	Toolmaker Grinder	19
20-837	9.00	Cut-Off Machine	13
31-856	10.00	Abrasive Belt Finishing Machine	7
31-803	10.00	Abrasive Disc Finishing Machine	12
23-802	7.50	Tool Grinder	8

No. 1296 Delta Improved Drill Grinding Attachments

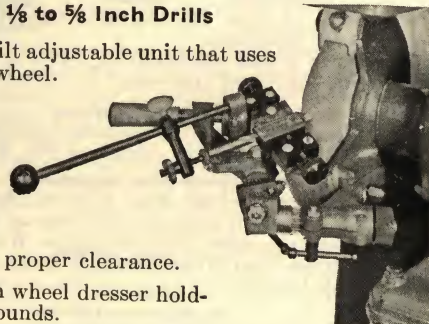
Capacity 1/8 to 5/8 Inch Drills

A precision built adjustable unit that uses the face of the wheel.

Micrometer settings give evenly ground lips. Lip clearance has enough of heel cut away to provide proper clearance.

Furnished with wheel dresser holder. Weight, 9 pounds.

No. 1296. each \$35.00



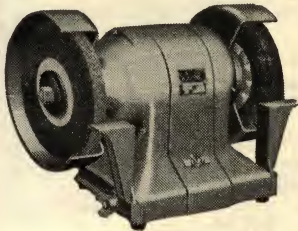
6-Inch Black & Decker Standard Electric Grinders

Bench Type

Single Phase—A.C.

1/2-Hp. Motor, 25 Cycles, 115 or 220 Volts

3/4-Hp. Motor, 50 or 60 Cycles, 115 or 220 Volts



Rotor and wheel spindle mounted on full-size bearings; special protective sleeves covering these bearings. Wheel guards are mounted on motor housing. Tool rests locked in base grooves with wing nuts, and adjusted for wheel wear.

Overall spindle length, 11 3/4 inches; overall height, 9 3/8 inches; height to center line of spindle, 5 5/8 inches.

Standard equipment includes 3-conductor cable and plug, toggle switch in base, 4 rubber feet, 2 wheel guards, 2 tool rests, 1 medium grinding wheel, and 1 wire wheel brush.

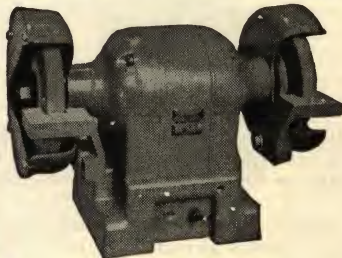
Shipping weight, 27 pounds.

Cat. No.....	64	66	66
Each, Specify Voltage.....	\$42.00	42.00	42.00
Cycles.....	25	50	60
No-Load Speed.....rpm.	1500	3000	3600

6-Inch Heavy Duty Black & Decker Electric Grinders

Bench Type

1/2-Hp., Motor, A.C.—For 60 Cycles, 3600 RPM.



For heavy-duty grinding, tool sharpening, wire brushing and buffing. Housings of die-cast zinc. Strong steel wheel guards and covers give extra protection and meet safety requirements; wheel guards are wide enough to accommodate a standard 3-section wire wheel brush without any change in the guard. U-shaped tool rests fit around the wheel for added support in tool grinding and are adjustable for wheel wear. Two-pole push-button switch is set in a recess in the housing where it is easy to reach, but completely protected against damage or accidental contact. A machined hole is provided in the base for mounting attachments.

Overall spindle length, 15 inches; total height, 10 7/8 inches, height to center line of spindle, 6 1/4 inches. Wheel size; 6x3 1/2 inches.

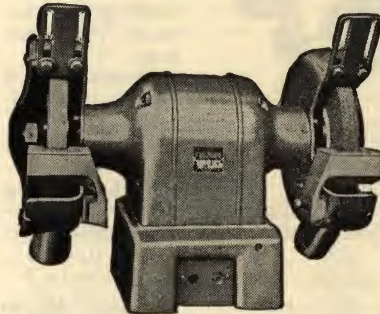
Standard equipment includes 3-conductor cable and plug; push-button switch in base; rubber feet; two enclosed wheel guards wide enough to accommodate wire wheel brushes with adjustable tool rests; two 6-inch grinding wheels, one medium and one fine. Shipping weight, 45 lbs. Cat. No. 67, 1-Ph.; 50-60 Cy., 115 or 220 V*.... each \$63.00 For No. 30700 Pedestal with Water Pot, Add....each 31.00 *50-60 cycle, 125 or 250 volt, single phase supplied on special order. Specify Voltage.

Black & Decker 8-Inch Electric Grinders

Bench Type

3/4-Hp. Motor—50-60 Cycles, A.C.—3600 RPM.

Adapted to polishing, buffing and wire brushing operations. Constant speed type motor for abundant power.



Wheel guards are fully enclosed and equipped with tool rests and spark shields. Guards are drilled and tapped for eyeshields, at slight extra charge.

Full size ball bearings.

Overall spindle length, 18 1/4 inches; total height, 14 inches.

Height to center line spindle, 7 13/16 inches.

Wheel size, 8x1 7/8x5 5/8 inches.

Standard equipment for 1-phase units: 3-conductor cable and plug; for 3-phase units, lead wire for permanent connection; pushbutton switch in base; rubber feet; two enclosed wheel guards with adjustable tool rests and spark shield; two 8-inch grinding wheels, one medium, one fine.

Shipping weight, 90 pounds.

1-Phase; 115 or 220 V. (Cat. No. 74).....	each	\$105.00
3-Phase; 220/440 V. (Cat. No. 76).....	each	105.00
For No. 30700 Pedestal with Water Pot, add.....	each	31.00

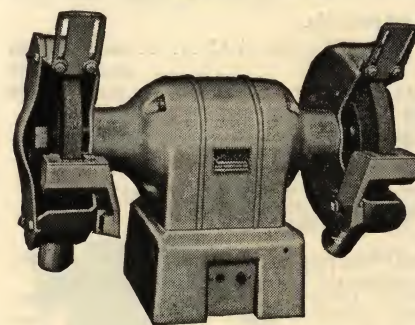
10-Inch Black & Decker Electric Grinders

Bench Type

3/4-Hp. Motor, 25 Cy.—1 Hp. Motor, 50-60 Cy.

*A.C.—For 115 or 220 V., 1-Ph. 220-440 V., 3-Ph.

Constant speed motor. Wire leads are brought out for permanent wiring with housing drilled and tapped for conduit and connector furnished for armored cable.



Grounding is accomplished through conduit or armored cable cover. Ball bearings.

Standard equipment: lead wires, 2-pole push-button protected switch; 2 enclosed guards

with exhaust outlets, tool rests and spark shields mounted on guards, two 10-inch grinding wheels, 1 medium, 1 coarse.

Overall spindle length, 22 3/4 inches; total height, 16 1/4 inches; height to center-line spindle, 9 1/2 inches. Wheel size, 10x1x3 1/4 inches. Shipping weight, 148 pounds.

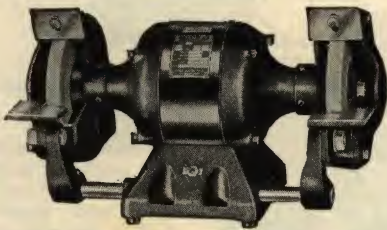
Cycles.....	25	50-60	
Cat. No.: 1 Phase.....	78	83	
3 Phase.....		85	
No Load Speed.....rpm.	1500	1500, 1800	
For All Available Voltages and Cycles.....	each	\$148.00	
No. 30835, Pedestal with Water Pot, Add.....	each	36.00	

*Supplied on special order:

220/440 volt, 3-phase, 25 cycle.

550 volt, 3-phase, 50-60 cycle.

125 or 240 volt, 1-phase, 50-60 cycle.

No. 286 Stanley 6-Inch Electric Grinders**Bench Type— $\frac{1}{3}$ -Hp. Motor**

For heavy grinding, sharpening, buffing, wire brush work. Has wheel guards with exhaust outlets and spark shields; grease-sealed ball bearings.

Constant speed motor. Speed at 60 cycles: no load, 3600 rpm.; full load, 3450 rpm.

Size arbor hole, $\frac{1}{2}$ inch. Length, 18 inches. Base, $7\frac{1}{8} \times 8\frac{3}{8}$ inches.

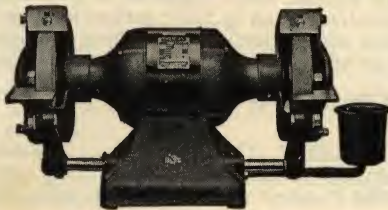
Complete with rubber feet, two $6 \times \frac{3}{4}$ -inch grinding wheels (1 coarse, 1 fine), two adjustable tool rests. Single-phase grinder supplied with cable; three-phase, switch included, no cable.

Shipping weight, 62 pounds.

No. 286, 1 Phase, 110 or 220 Volts, A.C. each \$63.00

No. 286, 115 or 230 Volts, D.C. each 78.00

No. 286, 3 Phase, 60 Cy. 220 or 440 Volts, A.C. each 63.00

No. 257 Stanley 7-Inch Electric Grinders**Bench Type— $\frac{1}{2}$ -Hp. Motor—Ball Bearing**

Load speed, 3450 rpm. at 60 cycles.

Diameter wheels 7 inches; thickness, 1 inch; arbor hole, $\frac{5}{8}$ -inch. Length overall, $20\frac{3}{8}$ inches. Base, $8\frac{1}{4}$ inches by 10 inches.

Complete with two grinding wheels (1 coarse, 1 fine), two adjustable tool rests, and water pot. Single-phase grinder supplied with cable; three-phase, switch included, no cable.

Shipping weight, 90 pounds.

No. 257, 1 Phase, 110 or 220 Volts, A.C. each \$88.00

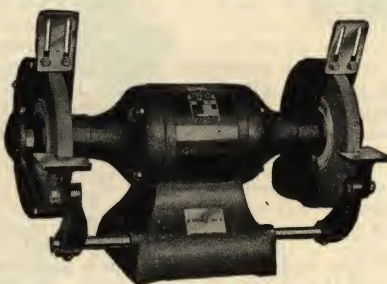
No. 257, 115 or 230 Volts, D.C. each 105.00

No. 257, 3 Phase, 60 Cyl. 220 or 440 Volts, A.C. each 88.00

No. 610 Stanley 10-Inch Electric Grinders**Bench Type**

**1-Hp. Motor—110, 220 or 230 Volts Single Phase; 220 or 440 Volts, 3-Phase—50-60 Cycles—A.C.
115 or 230 Volts—D.C.**

A compact, full ball-bearing bench grinder. Heavy duty toggle switch is conveniently located in base of grinder.



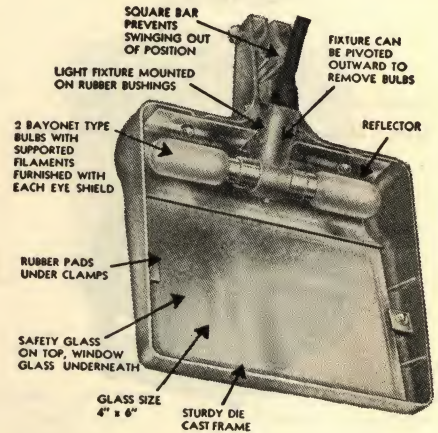
Furnished complete with two high grade bonded abrasive wheels; one coarse and one fine. Adjustable wheel guards have dust and spark shields.

No load speed: 60 cycles, 1800 rpm. 50 cycles, 1500 rpm.; d.c., 2000 rpm.

Diameter wheels, 10 inches; thickness, 1 inch; arbor hole, $\frac{3}{4}$ inch; 18 inches between wheels. Length overall, 24 inches.

No. 610, Ship. Weight, 168 Pounds. each \$145.00

No. GA-68, Pedestal with Shelf and Water Pot. each 42.00

No. 600 Stanley Fluid-Lite Eye Shields

Fits all grinders. Holds two sheets of glass, 4x6 inches, one-piece safety glass with ordinary window glass beneath.

Two 115-volt bulbs in each shield are bayonet type, easy to insert or remove, have supported filament.

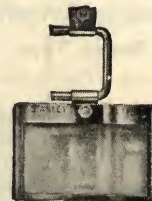
Reflector, mounted behind light bulbs, floodlights work and grinding wheel. Adjustable up or down to suit operator's position.

Packed 1 in a box, complete with two light bulbs, bolts and instructions for mounting and connection.

Shipping weight, $3\frac{3}{4}$ pounds.

No. 600, with Bulbs. each \$9.00

No. MS831 Extra Bulbs, 6 in a Carton each .65

No. 569 Stanley Safety Eye Shields

Can be attached to any grinder by simply drilling a $\frac{5}{16}$ -inch hole in the top of each wheel guard. Unlike goggles, they are always on the job and it requires effort not to use them.

The steel frames, $3\frac{3}{4} \times 5\frac{1}{4}$ inches, are fitted with safety glass, commonly known as non-shatterable glass.

Packed in pairs; shipping weight $1\frac{1}{4}$ pounds.

No. 569. per pair \$3.75

No. 825 General Drill Grinding Attachments

Precision built; adjustable for all popular drill point angles, including countersinks.

Resharpens drills.

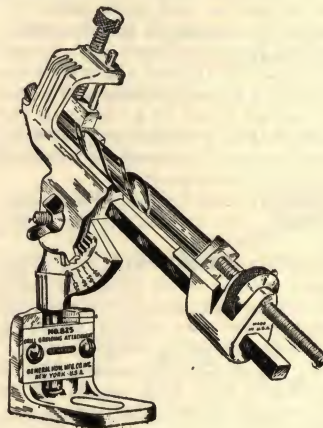
Fractional, $\frac{1}{8}$ - $\frac{3}{4}$ inch. Number sizes, 1 to 30, Letter sizes, A to Z, Metric sizes, 3.0 to 19.0 mm.

Silverlustre finish.

Individually boxed.

Weight, 2 pounds.

No. 825. each



Dremel Electric Moto-Tools

A practical, all purpose tool for drilling, routing, grinding, polishing, writing on glass, engraving, etc. This tool is handled like a pencil. Hardened and ground shaft runs in oilless self-aligning bearings. With handy built-in switch and universal type chuck with interchangeable double-cone type collets. Large commutator brushes are easily replaceable. Machine does not overheat.



No. 2

No. 1 Moto-Tool has a black bakelite housing with chromium-plated ends.

No. 2 Moto-Tool has a bakelite housing and ends. A chuck lock pin for convenience in holding chuck while changing tools. Finger grip is an integral part of the body and close to working tools. Extension finger grip also furnished. Has hanger for hanging machine up, to keep it out of dust and litter, and protects it from injury.

Universal motor operates on 110 volts a.c. or d.c. Can also be furnished to operate on higher voltages if so specified.

Furnished with 6 feet of rubber-covered cord and plug.

No.	1	2
With one 1/8-Inch Collet and one No. B52 Wheel Point.....each	\$9.85	16.50
Diameter.....inches	1 13/32	1 11/16
Length.....inches	5 1/4	6 3/4
Current Consumption.....watts	65	88
Speed.....rpm.	25,000	27,000
Weight.....ounces	6	13

No. 2 Dremel Moto-Tool Kits



Attractive tool kit protects tools. For use in industry, home, shop or profession.

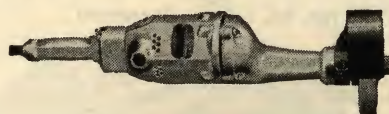
With Moto Tool and 23 of most commonly used practical accessories to work most all materials.

Smoothly finished, 1/4-inch thick wood box. Felt lined, built for long service.

No. 2, Complete with Accessories.....each **\$23.50**

Black & Decker Portable Electric Grinders

Universal Motor, A.C. and D.C.—For 115 or 220 Volts



Used for grinding, where tool must be taken to the work; snagging, spark testing, smoothing welds, wire brushing; also buffing, polishing and cleaning of all types of metal surfaces.

Hardened alloy steel gears and ball bearings housed in dustproof seats.

Standard equipment: wheel, wheel guard and 3-conductor cable with plug.

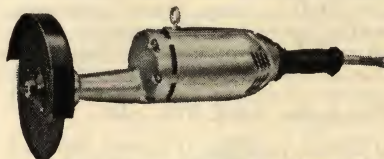
Cat. No.	395	60	61
*Each.....	\$67.00	88.00	100.00
Size.....inches	3	5	6
Wheel Size.....in.	3x1 1/2x3/8	5x3 1/4x1 1/2	6x1x5/8
Overall Length.....in.	16 3/4	23 1/8	25
Lo Load Speed.....rpm.	16000	4500	3800
Net Weight.....lb.	7 5/8	15 1/2	20
Shipping Weight.....lb.	11 1/2	21	26

*Specify voltage.

No. 465 8-Inch SKIL Tuckpointing Grinders

Universal Motor, A.C. and D.C.—For 115, 220 and Odd Voltages; Up to 60 Cycles

Capacity, 8x1/8 or 8x3/16-inch abrasive disc with 5/8-inch arbor hole. Lightweight, easy to handle.



Ball bearings mounted in steel inserts on all shafts. Spindlediameter, 5/8 inch.

No load speed, 5000 rpm. Overall length, 22 inches.

Equipped with adjustable wheel guard, suspension eye bolt; wrench; 3-wire cord and connector; rubber sleeve rear handle grip; enclosed double-pole slide switch.

Abrasive discs not furnished.

Net weight, 14 1/2 pounds; shipping weight, 19 pounds. No. 465, Specify Voltage.....each **\$81.50**

No. 30700 Black & Decker Bench Grinder Pedestals



A sturdily constructed, fabricated steel pedestal used to mount 6 and 8-inch bench grinders. Adaptable where bench space is at a premium.

Pedestal can be conveniently located in the shop.

Designed to bring the grinding wheel to correct operating height.

Minimizes vibration. Equipped with water pot for quenching.

Height, 31 1/2 inches.

Shipping weight 64 pounds.

Cat. No. 30700.....each **\$31.00**

We are in position to furnish practically everything used in factory, mill or shop.

Black & Decker Portable Electric Sanders

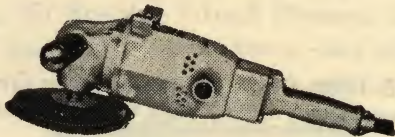
Universal Motor, A.C. and D.C.—For 115 or 220 Volts

No. 92, 7-Inch Standard

For normal shop operations requiring a lightweight tool. Well balanced and easy to handle. Ideal for sheet metal shops, fender and body shops, foundries, shipyards and stone and tile work. Ball bearing. Spindle diameter and thread, $\frac{5}{8}$ -inch—11 thread. No load speed, 4200 rpm. Overall length, without pad, $17\frac{1}{2}$ inches.

Furnished complete with 3-conductor cord and plug, reversible side handle, molded rubber pad, three 7-inch sanding discs (1 coarse, 1 medium, 1 fine), spindle lock, strap metal stand and clamp washer.

Net weight, $12\frac{3}{4}$ pounds; shipping weight, $16\frac{1}{2}$ pounds. Cat. No. 92, 7-Inch Std., Specify Voltage.....each \$73.00

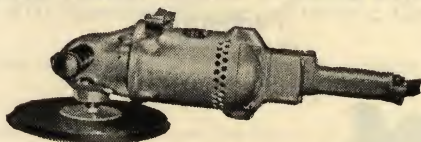
No. 93, 7-Inch Heavy Duty

For heavy duty sanding and metal finishing of all types, on a high production basis; replacing hand operations with file, emery or sandpaper. Ball bearing. Sturdy gear construction, housed in a steel gear case. Completely dust-sealed commutator and switch compartments. Improved ventilating system forces air straight through ample vent slots. Flexible pad insures maximum working area and adapts tool to flat or curved surfaces.

Spindle diameter and thread, $\frac{5}{8}$ -inch—11 thread. No load speed, 4200 rpm. Overall length, without pad, 18 inches.

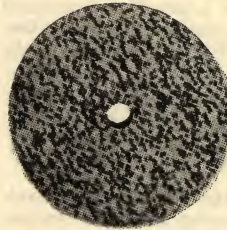
Furnished complete with 3-conductor cable and plug; plunger switch; detachable side handle, which can be used on either side of unit; 7-inch heavy duty molded rubber pad; three 7-inch sanding discs (1 coarse, 1 medium, 1 fine), spindle lock, strap metal stand and clamp washer.

Net weight, $14\frac{1}{4}$ pounds; shipping weight, $21\frac{1}{2}$ pounds. Cat. No. 93, 7-In. Heavy Duty, Specify Voltage...ea. \$82.00

No. 433, 9-Inch Heavy Duty

For constant production-line use with 9-inch abrasive discs. May be used with wire cup brushes and saucer grinding wheels for right-angle grinding, or with planer heads for wood shaping and surfacing. Ball bearing. Pusher-type steel fan. Spiral-bevel gears. Spindle lock for quick change of pads and abrasive discs. Thumb-pressure, spring release, positive lock. Spindle diameter and thread, $\frac{5}{8}$ -inch—11 thread. No load speed, 4000 rpm, optional speed of 5000 rpm. at no extra cost. Overall length, without pad, $19\frac{1}{2}$ inches. Furnished complete with 3-conductor cable with plug; plunger switch; reversible side handle; 5-inch moulded rubber pad; $6\frac{3}{4}$ -inch Kooflex pad; $8\frac{7}{8}$ -inch Kooflex pad; two clamp washers, three $9\frac{1}{8}$ -inch sanding discs (1 coarse, 1 medium, 1 fine), spindle lock, strap metal stand and suspension eye-bolt.

Net weight, $18\frac{3}{4}$ pounds; shipping weight, 25 pounds. Cat. No. 433, 9-In. Heavy Duty, Spec. Volt....each \$98.00

Black & Decker Portable Electric Sander and Polisher Attachments
Sanding Discs

Sanding and abrasive discs can be furnished in a variety of grades and grains. Discs designated as Open Grain are especially suited for wood sanding, Nos. 16, 24, and 36 for removing paint and varnish; Closed Grain discs for metal work.

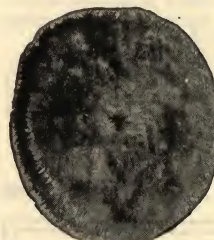
Packed 25 in a box.

Grade	Closed Grain			Open Grain		
	7-Inch	9-Inch		7-Inch	9-Inch	
	No.	No.		No.	No.	
16	17815	26458		15134	15137	
	Each	Each		Each	Each	
24	9990	10719		15135	15138	
	Each	Each		Each	Each	
36	9991	10720		15136	15139	
	Each	Each		Each	Each	
50	9992	12153		12011	12131	
	Each	Each		Each	Each	
60	18489	18493		18491	18495	
	Each	Each		Each	Each	
80	10485	10721		12012	12132	
	Each	Each		Each	Each	
100	12145	12149		.....	.....
	Each	Each		.....	.....
120	12146	12150		12013	12133	
	Each	Each		Each	Each	
150	12147	12151		.....	.....
	Each	Each		.....	.....
180	12148	12152		.....	.....
	Each	Each		.....	.....

Replacement Sander Pads and Parts

All pads and replacement assemblies are interchangeable on all sanders and buffers as the spindle diameter and thread is the same for all units of this group.

No. 33262, 7-Inch Molded Rubber Pad with No. 33257	
Clamp Washer.....each	\$3.25
No. 33488, 7-Inch H.D. Molded Rubber Pad with No. 33257	
Clamp Washer.....each	3.75
No. 33487, 9-Inch Molded Rubber Pad with No. 33257	
Clamp Washer.....each	6.00
No. 14237, 3-Inch Flexible Pad, Complete.....each	3.85
No. 14551, Replacement Pad for 3-Inch Flexible Pad.....each	1.25
No. 33489, 5-Inch Molded Rubber Pad with No. 33257	
Clamp Washer.....each	3.50
No. 33257, Clamp Washer.....each	.45
No. 10279, Clamp Washer for 3-Inch Flexible Pad.....each	.45

Lambswool Buffing Pads and Bonnets

For cleaning and polishing lacquered finishes and for obtaining final high luster after spraying.

Attached direct to flexible pad of polisher.

No. 13086, Lambswool Buffing Pad for 7-Inch Polishers:	
Individually Boxed.....each	\$1.55
In Carton of 6 Pads.....each	1.40
No. 13087, Lambswool Buffing Bonnet.....each	2.15
No. 22176, Lambswool Buffing Bonnet, for Use with Cushion Pad or Sponge Rubber Pad and Molded Rubber Pad.....each	2.70
No. 33982, Cushion Pad with Clamp Washer.....each	7.00
No. 33257, Replacement Clamp Washer.....each	.45
No. 22174, 7-Inch Sponge Rubber Pad for use with No. 33262 Molded Rubber Pad.....each	1.40
No. 22191, Long Clamp Washer Only, for No. 22174 Sponge Rubber Pad.....each	.50

Rubbing Pads

For rubbing down orange peel in lacquer finishes, etc. Attaches direct to flexible pad of polisher.	
No. 20619, 7-Inch Pile Fabric Pad.....each	\$1.80
No. 21207, $9\frac{1}{4}$ -Inch Pile Fabric Pad.....each	2.50
No. 10661, Felt Pad for 7" Polisher or 7" Sander.....each	1.95
No. 10709, Felt Pad for 9-Inch Sander.....each	2.75

Attachments for Black & Decker Portable Electric Sanders and Polishers

Sanding Discs

Can be furnished in a variety of grades and grains. Open grain discs are especially suited for wood sanding; Nos. 16, 24 and 36 for removing paint and varnish. Closed grain discs are for metal work. All discs packed 25 to a box.

Grade	Open Grain		9-Inch Disc	
	No.	Each	No.	Each
16	15134	\$.58	15137	\$.77
24	15135	.45	15138	.60
36	15136	.44	15139	.59
50	12011	.42	12131	.55
60	18491	.40	18495	.53
80	12012	.38	12132	.50
120	12013	.38	12133	.50
Grade	Closed Grain		9-Inch Disc	
	No.	Each	No.	Each
16	17815	\$.58	26458	\$.77
24	9990	.45	10719	.60
36	9991	.44	10720	.59
50	9992	.42	12153	.55
60	18489	.40	18493	.53
80	10485	.38	10721	.50
100	12145	.38	12149	.50
120	12146	.38	12150	.50
150	12147	.38	12151	.50
180	12148	.38	12152	.50

No. 10663 Cup Grinding Wheels

For smoothing welds and other surfaces where considerable metal is to be removed. Use No. 10711 spindle extension to attach to sander.

No. 10663, 4-Inch.....	each	\$2.30
No. 10711.....	each	2.50

Wire Cup Brushes

Designed for cleaning castings, structural steel, tanks and sheet metal. Attaches direct to sander.

No. 18056, 4-Inch.....	each	\$2.75
No. 24353, 5-Inch.....	each	3.30
No. 12398, 6-Inch.....	each	3.85

Rotary Planer Heads

For smoothing and fitting joints in concrete forms; surfacing boat hulls and decks, piers, floors, etc.; beveling and shaping beams and timbers, etc. Two types of heads are furnished, one with rounded surface for deep gouging, other with flat face for surfacing and semi-finishing; interchangeable on spindle of rotary planer or 7 and 9-inch H.D. sanders.

No. 14743, Set of Two 5-Inch Planer Heads, One Gouging and One Surfacing, Complete with Blades, per set	\$31.00
No. 14734, 5-Inch Gouging Planer Head, Complete with Blades.....	each 14.50
No. 14735, 5-Inch Surfacing Planer Head, Complete with Blades.....	each 14.50
No. 14733, Replacement Blades (Either Head).....	each 2.10

Flexible Pads and Replacement Pads

No. 33262, 7-Inch Std. Molded Rubber Pad.....	each 3.25
No. 33488, 7-Inch H.D. Molded Rubber Pad.....	each 3.75
No. 33982, Cushion Pad for Polishers.....	each 7.00
No. 14237, 3-Inch Flexible Pad, Complete.....	each 3.85
No. 14551, Replacement Pad for 3-In. Flexible Pad.....	each 1.25

Felt Rubbing Pads

For rubbing down orange peel in lacquer finishes, etc. Attached direct to flexible pad of polisher.

No. 10661, for 7-Inch Buffer or Sander.....	each \$1.95
No. 10709, for 9-Inch Sander.....	each 2.75

Lambswool Buffing Pads

For cleaning and buffing lacquered finishes and for obtaining final high lustre after spraying. Attached direct to flexible pad of buffer.

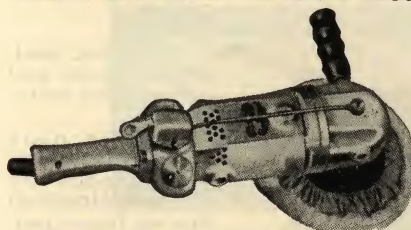
No. 13086, for 7-Inch Buffer or Sander...per box of 6	\$8.40
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No. 13087 Lambswool Buffing Bonnets

For cleaning, buffing and waxing all types of lacquer finishes and for waxing black leatherette tops. Attached direct to flexible pad of buffer.

No. 13087.....	each \$2.15
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Black & Decker Portable Electric Polishers



Automatic Power Polishers

Universal Motor, A.C. and D.C. For 115 or 220 Volts. Equipped with Reservoir

Equipped with reservoir, thumb-operated pump and feeder tube which automatically applies Vitri-Glaze to car surface while working. No stopping for hand application; no drying of liquid. Liquid does not dry on car and become caked. Produces a uniform finish with increased power, correct speed, lightweight. Diameter of pad, 7 inches. Overall length, 17½ inches. Speed no-load 1500 rpm.

Standard equipment: automatic power buffer complete with reservoir, plunger pump and tube; 3-conductor cable and plug (3rd wire for grounding); rocker-type switch; 7 inch molded rubber pad; 7-inch sponge rubber cushion pad; lambswool buffing bonnet; and reversible side handle.

Standard voltages 115 or 220; also available on special order 125 or 240 volts. Weight, 10¾ pounds.

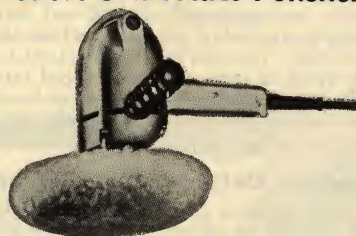
Cat. No. 97, Specify Voltage.....each \$90.00

Standard Electric Polishers

A unit for small shops. Does not have automatic-feed feature (liquid must be applied by hand). Especially adapted to rubbing-down new paint and lacquer; for buffing and cleaning all metal and wood surfaces and waxing. Diameter of pad, 7 in. Overall length, 15½ in. Speed no-load, 1500 rpm.

Standard equipment: standard power buffer complete; 3-conductor cable and plug (3rd wire for grounding); rocker-type switch; 7-inch molded rubber pad; 7-inch sponge rubber cushion pad; lambswool buffing bonnet; reversible side handle; strap metal stand. Standard voltages 115 or 220; also available on special order 125 or 240 volts. Wt., 9¼ lb. Cat. No. 96, Specify Voltage.....each \$75.00

No. 570 SKIL Auto Polishers



For use in small garages, service stations, dealer service departments. Close-coupled design, balance and light weight permit easy operation at all angles.

Capacity, 7-inch backing pad, polishing pad and lambswool bonnet; 7-inch felt rubbing, or pile fabric pad.

Spindle diameter, ⅝-in.—11 thread.

No-load speed, 1300 rpm. Enclosed double-pole slide switch. Ball and self-lubricating bearings on shafts.

Length overall, not including pad, 9½ inches.

Standard equipment includes: 7-inch molded rubber backing pad; long pad nut; standard pad nut; lambswool polishing bonnet; left side handle; disc clamp wrench; 3-wire cord and connector; 1-pt. can of SKIL auto polish.

Net weight, 7 pounds; shipping weight, 12 pounds.

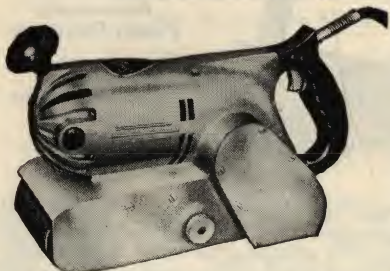
No. 570, Specify Voltage.....each \$49.50

Accessories

No. 4711, SKIL Lamb's Wool Polishing Bonnet.....	each \$2.50
No. 2462, Felt Rubbing Pad.....	each 1.95
No. 6622, Pile Fabric Pad.....	each 2.00
No. 2492, SKIL Sander Pad.....	each 4.00
No. 2427, Disc Pad Nut.....	each .65
No. 4679, 7-In. Molded Rubber Backing Pad.....	each 3.85
No. 6496, 7-In. Sponge Rubber Cushion (Used with No. 4679 Pad).....	each 1.95
No. 4699, Backing Pad Nut.....	each .65
No. 2445, Pad Nut Wrench.....	each .75
No. 3771, Standard Duty,	
No. 3772, Heavy Duty Skil Auto polish (gallon can).....	each 2.85

No. 323 4 1/2-Inch Belt Type SKIL Sanders

Universal Motor, A.C. and D.C.—60 Cycles



For sanding wood, metal, stone and composition materials.

Double pole switch, bakelite enclosed, momentary contact. Aluminum diecast frame provides lightness and strength.

Worm drive to transverse shaft

transmits power to rear pulley through silent chain; 100 per cent anti-friction bearing construction.

Belt speed free, 1300 fpm. Belt is 4 1/2 inches wide and can be quickly and easily changed by a touch control lever. Belts are centered by simple control knob, even when sander is operating. Belt tension kept uniform by coil spring.

Right side of machine flush with edge of belt for sanding close to upright objects parallel to belt.

Size overall, 6x15 3/4 x 9 1/4 inches high over handles.

Equipment: Resilient backed metal pad; 3-conductor rubber covered cord with 2-prong connector; medium grade SKIL Sander Belt and lubricant.

Weight, 23 pounds.

No. 323, Specify Voltage.....each \$147.50

No. 324 with Vacuum Dust Collector



Of same construction as No. 323 with addition of an efficient vacuum dust collecting system capable of eliminating dust and dirt resulting from sanding. Prevents

loading of belts, insures faster cutting, and longer belt life. Strong vacuum is created by efficient turbine type fan gear, driven from motor. Vacuum intake is placed to pick-up all sanding dust which is instantly discharged into cloth bag.

Size overall, 6x15 3/4 x 9 1/4 inches high over handles.

Equipment the same as No. 323. Weight, 25 pounds.

No. 324, Specify Voltage.....each \$177.00

SKIL Sander Belts for Nos. 323 and 324

Made of electric furnace abrasives of the highest quality. Cloth backed, each hand spliced at 45 degrees and cemented under pneumatic pressure. Tension tested, insuring smooth and even movement over pulleys.

Comparative Grit Table

Type Belt	GRIT No. FOR FINISHING					
	Wood		Metal		Stone	
Coarse Grit...	3, 3 1/2, 2		24, 30, 36		24, 30, 36, 40	
Medium Grit.	1 1/2, 1, 1/2		40, 50, 60		50, 60, 80, 100	
Fine Grit.....	1/0, 2/0, 3/0		80, 100, 120, 180, 220, 320		120, 180, 220, 320	

No.	Each	Type	Grit	No.	Each	Type	Grit	No.	Each	Type	Grit
7870	\$.64	A	3	7884	\$.58	B	60	7898	\$.56	C	80
7871	.62	A	2 1/2	7885	.56	B	80	7899	.55	C	100
7872	.59	A	2	7886	.55	B	100	7900	.55	C	120
7873	.57	A	1 1/2	7887	.55	B	120	7901	.55	C	150
7874	.55	A	1	7888	.55	B	150	7902	.55	C	180
7875	.54	A	1/2	7889	.55	B	180	7903	.55	C	220
7876	.52	A	1/0	7890	.55	B	220	7904	.55	C	320
7877	.51	A	2/0	7891	.55	B	320	7905	.68	D	3
7878	.51	A	3/0	7892	.68	C	24	7906	.66	D	2 1/2
7879	.68	B	24	7893	.66	C	30	7907	.65	D	2
7880	.66	B	30	7894	.65	C	36	7908	.62	D	1 1/2
7881	.65	B	36	7895	.61	C	40	7909	.59	D	1
7882	.61	B	40	7896	.60	C	50	7910	.58	D	1/2
7883	.60	B	50	7897	.58	C	60				

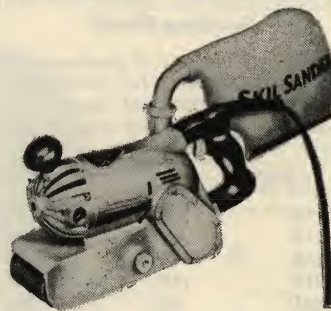
No. 926 Fabric Belt—A medium hard endless fabric belt for polishing; thickness, 3/32 inch.

No. 926.....each \$6.75

When ordering belts, specify type and grade.

Belt Type SKIL Sanders

Universal Motor, A.C. and D.C.,—For 115 or 220 V., 60 Cy.



Developed especially for boat builders, small woodworking and cabinet shops, manual training classrooms, etc.

Balanced to exert uniform pressure over sanding surface. Touch-control lever instantly releases tension on belt. Interchangeable knob handle can be moved from top to nose of sander for easier sanding of vertical surfaces.

Has ball bearings on armature and transverse shaft; Oilite bearings on front and rear pulleys. Handle is of molded bakelite.

Pulleys, 2 1/4 in. in diam. Driver pulley rubber covered. Belt is 3 inches wide, 23 3/4 inches long. Easy to center. Belt tension is kept uniform by coil spring. Belt speed, free, 1200 feet per minute.

Right side of machine is flush with edge of belt for sanding close to upright objects.

Furnished with 3-wire cord and connector, medium grit sanding belt and lubricant. No. 449 is also furnished with heavy fabric dust bag with metal slide enclosure.

Overall size, 4 1/4 x 15 1/4 x 8 1/2 inches.

Specify voltage desired.

No. 448, Ship. Wt., 20 Pounds.....each \$115.00

No. 449, Same as No. 448, but with Vacuum Dust

Collector; Ship. Wt., 20 1/2 Pounds.....each 142.50

SKIL Sander Belts

GRIT SIZE No.									
Belt		Wood		Metal		Stone			
Coarse Grit	3, 3 1/2, 2		24, 30, 36		24, 30, 36, 40				
Med. Grit . .	1 1/2, 1, 1/2		40, 50, 60		50, 60, 80, 100				
Fine Grit. . .	1/0, 2/0, 3/0		80, 100, 120, 180, 220, 320		120, 180, 220, 320				
Belt Size 2 1/4 x 21 5/16 Inches—For No. 325 SKIL Sanders									
Type A—For Wood Finishing									
No.	Each	Grit	No.	Each	Grit	No.	Each	Grit	
7801	\$.31	3	7804	\$.28	1 1/2	7807	\$.25	1/0	
7802	.30	2 1/2	7805	.26	1	7808	.24	2/0	
7803	.30	2	7806	.26	1/2	7809	.24	3/0	
Type B—For Metal Finishing									
7810	\$.34	24	7815	\$.29	60	7820	\$.26	180	
7811	.33	30	7816	.28	80	7821	.26	220	
7812	.32	36	7817	.26	100	7822	.25	320	
7813	.31	40	7818	.26	120	...	...	...
7814	.30	50	7819	.26	150	...	...	...
Type D—For Removing Varnish									
7823	\$.34	3	7825	\$.32	2	7827	\$.30	1	
7824	.33	2 1/2	7826	.31	1 1/2	7828	.29	1/2	
No. 5050, Fabric Belt.....each \$2.50									

No. 5050, Fabric Belt.....each \$2.50

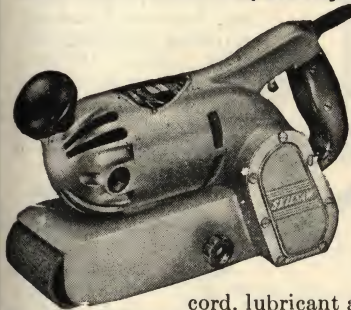
Belt 3x22 3/4 In.—For Nos. 9, 448 & 449 SKIL Sanders

Type A—For Wood Finishing								
No.	Each	Grit	No.	Each	Grit	No.	Each	Grit
7829	\$.36	3	7832	\$.33	1 1/2	7835	\$.29	1/0
7830	.35	2 1/2	7833	.31	1	7836	.28	2/0
7831	.34	2	7834	.30	1/2	7837	.28	3/0
Type B—For Metal Finishing								
7838	\$.40	24	7843	\$.33	60	7848	\$.30	180
7839	.39	30	7844	.31	80	7849	.30	220
7840	.36	36	7845	.30	100	7850	.30	320
7841	.35	40	7846	.30	120			
7842	.34	50	7847	.30	150			
Type C—For Stone Finishing								
7851	\$.40	24	7856	\$.33	60	7861	\$.30	180
7852	.39	30	7857	.31	80	7862	.30	220
7853	.36	36	7858	.30	100	7863	.30	320
7854	.35	40	7859	.30	120			
7855	.34	50	7860	.30	150			
Type D—For Removing Varnish								
7864	\$.40	3	7866	\$.36	2	7868	\$.34	1
7865	.39	2 1/2	7867	.35	1 1/2	7969	.33	1/2

No. 3324, Fabric Belteach \$3.50

No. 325 2 1/4-Inch Electric Belt Type SKIL Sanders

Universal Motor, A.C. and D.C.—For 115 and 220 Volts Up to 60 Cycles



For craftsmen, small woodwork shops, lumber yards etc. Aluminum alloy die cast frame. Ball bearings on armature shaft; bakelite handle. Pulley diam., 2 in. Length belt, 21 5/8 inches, easy to change. Speed, 600 fpm. Size overall, 3 3/4 x 12 x 7 in. Has resilient metal backed pad,

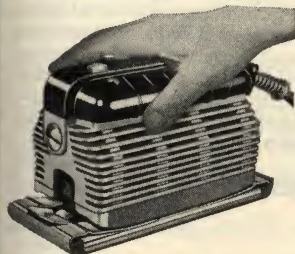
cord, lubricant and sander belt.

No. 325, Specify Voltage, Wt., 10 1/4 Lb. each \$68.00

No. 2000 Dremel Portable Electric Sanders and Polishers

For 110-220 Volts, A.C.

Straightline reciprocating stroke, approximately 3/16-inch long, 14,400 per minute, assures smooth finish.



Cam type clamp holds paper. Sandpaper is 3x9 inches. Operates efficiently with No. 1/2 paper or finer.

Only two moving parts; no oiling. Sanding base has 1/4-inch thick rubber pad.

Die cast aluminum housing with bakelite cover.

U-L approved cord.

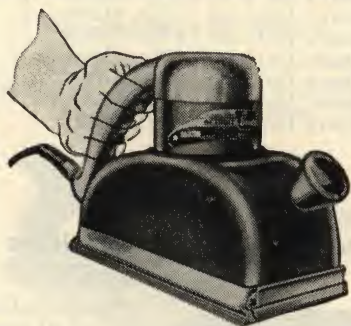
Size, 4 1/2 x 3 1/8 x 2 7/8 inches.

Weight, 5 pounds.

No. 2000, with Steel Carrying Case, 25 Assorted Sheets of Abrasive Paper, Sheepskin Pad; Wt. 9 Lb. each \$24.50

Type DF Detroit Easy Finishers

A.C. or D.C.—For 115 or 230 Volts



For fast, straight-line finishing on wet or dry, curved or flat work. Smooth and vibrationless.

Straight-line, reciprocating action (pad motion) duplicates natural motion of hand-block finishing and permits working-up to moldings and right angles without marring or scratching. Does not sand cross grain, cut swirls, winkers, chain or other hard-to-cover abrasive patterns.

Uses heavy duty electric motor.

Simple slip-action method is provided for attaching desired type sanding or rubbing pad of sponge rubber or felt.

With 20-foot 3-conductor cord, one 3/8-inch felt and one 3/8-inch sponge rubber detachable sanding pad.

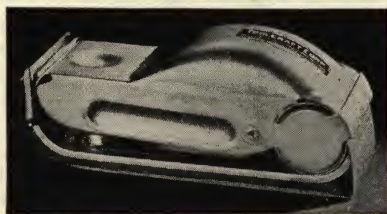
Type DF, Complete each \$108.00

No. 990 Easy Kits

Has 1 each of the following: No. 970 steel carrying case for Type DF Finisher and pads; No. 707715 detachable plate and 3/8-inch sponge rubber sanding pad; No. 707712 detachable plate and 3/8-inch sponge rubber sanding pad; No. 902 gear lubricant and No. 908 drive bearing lubricant. Has two No. 703 complete abrasive holder assembly.

No. 990, Complete each \$10.50

No. 12 Toolcraft Super Sanders



Fast cutting, easy loading, refillable sanding tool.

Made of steel, cadmium plated. Width, 2 inches.

Packed 3 sanders per counter display box; 12 per package.

No. 12, Weight per Package, 13 Pounds each \$1.65

Sandpaper Refill Rolls

Packed 12 in a box.

Grit No. 60, Coarse, Aluminum Oxide each \$.30

Grit No. 80, Medium, Aluminum Oxide each .30

Grit No. 120, Fine, Silicon Carbide each .30

No. 25 Standard Duty Portable Electric SKIL Blowers

Universal Motor, A.C. and D.C.—For 115 and Odd Voltages



This blower develops sufficient power to blow or suck (when used with attachments) all dust out of machinery and general plant equipment. Delivers air at 17,000 lineal feet

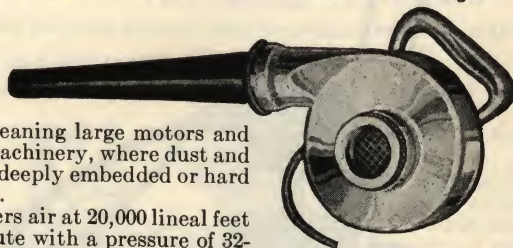
per minute with a pressure of 24-26-inch water column or 1 pound. Displaces 80 cubic feet of air per minute. Sealed type ball bearings require no oiling. Has aluminum frame. Motor input, 330 watts. With 20-foot reinforced rubber covered cord and plug.

Net weight, 7 1/2 pounds.

No. 25, Specify Voltage each \$60.00

No. 26 Heavy Duty Portable Electric SKIL Blowers

Universal Motor, A.C. and D.C.—For 115 and Odd Voltages



For cleaning large motors and heavy machinery, where dust and dirt are deeply embedded or hard to reach.

Delivers air at 20,000 lineal feet per minute with a pressure of 32-34-inch water column or 1 1/4-pounds. Displaces 95 cubic feet of air per minute. Sealed type ball bearings require no oiling. Has aluminum frame. Motor input, 450 watts.

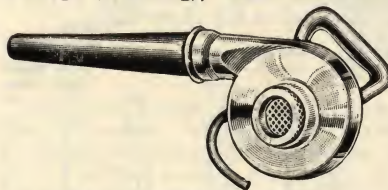
Net weight, 9 1/2 lb. Shipping weight, 13 1/2 lb.

No. 26, Specify Voltage each \$77.50

No. 29 2-Speed Portable Electric SKIL Blowers

1-Hp. Universal Motor, A.C. and D.C.—For 115, 221 and Odd Voltages—(Formerly No. X)

For all blowing or *suction cleaning work. Sealed ball bearings (no oiling); aluminum frame. With 20'3" rubber covered cord and plug.



High Speed: velocity, 26,000 lineal fpm.; capacity, 176 1/2 cfm.; water lift (static pressure), 48 inches; wattage input, 890.

Low Speed: 20,500 lin. fpm.; capacity, 125 cfm.; water lift (static press.), 36 in.; wattage input, 670.

Net weight, 14 1/2 lb. Shipping weight, 19 3/4 lb.

No. 29; Specify Voltage each \$99.50

*With attachments, as suction cleaner; prices on request.

Wycoflex Universal High Speed Grinders

For grinding, filing, sanding, polishing or burring operations. Set it on a bench or hang it from a hook; for complete mobility, hang it from your belt.

Has a non-metallic inner-liner flexible shaft. Handpieces are ball bearing, and have interchangeable collets. Toggle switch mounted in cast aluminum base.

No. 00-U has 1/4-hp. Universal motor equipped with No. OOP Wyco 4-foot shaft with 1-inch diameter collet handpiece taking 1/8 and 1/4-inch collets. No. 000-U2, 1/12-hp. and No. 000-U1, 1/18-hp. Universal motors equipped with No. OOP Wyco 3 1/2-foot shaft with 3/4-inch diameter ball bearing handpiece taking 1/8 and 3/16-inch collets.

Working speed of all sizes, 10,000 rpm.

No.	000-U1	000-U2	00-U
Each	\$27.25	36.00	55.00

Wycoflex Universal Kits

The Wycoflex Universal High Speed Grinder can be furnished in a handy metal kit.

Metal carrying case includes a handy block of 5 accessories and a wheel dressing stone.

No.	000-U1-K	000-U2-K	00-U-K
Ea.	\$36.25	46.00	67.00

Foot Rheostat

No.	FU-1	FU-2	FU
Ea.	\$7.50	8.50	10.00

Wyco Industrial Flexible Shaft Grinders



Roll-Easy Truck Mounting

For medium and heavy duty grinding, sanding, wire-brushing, etc., in machine and repair shops, foundries and sheet metal shops. Single speed, all machines have quick-change handpiece and angle head. Specify angle head, if desired, when ordering, by adding suffix X to No. of grinder.

Four models: TYPE A, high base; TYPE B, low base on casters; TYPE S, suspension, all at same price. TYPE T, truck base, as illustrated, is furnished at \$14.75 extra.

No.	Without Angle Head Each	With Angle Head		Hp.	Grind. Wheel Shaft Ft.	Diam. In.
		Each	Angle Hd. No.			
3A, B, S	\$138.25	\$170.70	616	3/4	6	6
31A, B, S	143.25	175.70	616	3/4	7	6
4A, B, S	167.95	220.20	816	1	7	6
5T, S	228.75	280.50	816	1 1/2	7	8

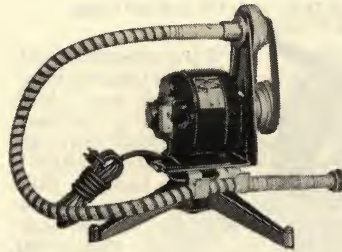
Standard motor, 110 volts, single-phase, 60 cycles, a.c.; except for No. 5T, 220/440 volts, 3 phase.

Other than standard motor, prices upon application.

Wyco 3-Speed Utility Flexible Shaft Grinders

Speeds, 900, 1800, 3600 RPM.

Durable, light service, for wire brushing, grinding, polishing, etc. With 1/4-hp., 110-volt, 60-cycle, a.c. motor; 10-foot cord and plug with toggle switch; 3/8-inch wheel arbor and 2 wrenches.



No.	Low Base		High Base
	03B	013B	013A
With Motor	\$68.05	\$79.30	\$88.60
Less Motor	42.05	49.30	58.60
No. Flexible Shaft	0	01	01
Length Flexible Shaft	4	5	5

Wyco Flexible Shafts

Attaches to any motor. Frictionless, non-metallic inner liner. With ball-bearing handpiece and motor coupling to fit motor. Quick-change handpiece, except Utility. Handpieces and angle heads snap on and off instantly.

When ordering specify diameter of motor shaft.



No.	Each	Description	Length Feet	Core Diam. In.
00	\$13.50	Wyco Utility, Light Duty	4	1/4
0	14.50	Wyco Utility for 1/4 Hp. Motor	4	5/16
01	18.00	Wyco Utility for 1/8 Hp. Motor	5	3/8
1	23.10	Heavy Duty for 1/4-Hp. Motor	4	3/8
10	26.50	Heavy Duty for 1/8-Hp. Motor	5	3/8
02	34.65	Heavy Duty for 1/2-Hp. Motor	5	7/16
2	38.50	Heavy Duty for 1/2-Hp. Motor	6	7/16
20	42.50	Heavy Duty for 1/2-Hp. Motor	7	7/16
3	45.10	Heavy Duty for 3/4-Hp. Motor	6	1 1/2
30	50.75	Heavy Duty for 3/4-Hp. Motor	7	1 1/2
4	60.75	Heavy Duty for 1-Hp. Motor	7	5/8
5	71.50	Heavy Duty for 2-Hp. Motor	7	3/4

Wyco Straight Handpieces

For Flexible Shafts



No. 550

The Quick-Change handpiece on all except Nos. 50, 150 and 250 permits snap-on or off changes from straight handpiece to angle head or to another handpiece with a different accessory, saving time on successive operations. Thus it provides changes from grinding to disc sanding, to wire brushing or polishing.

No.	Takes Wheel Arbor Nos.	Fits Wyco Shaft Nos.	Includes Collet Chuck Inches	Each
50-C	105	000-P	1/8	\$6.90
150-N	*	00	..	4.25
150-C	205	00-P, 00-B	1/4	11.75
250-N	305-405	0-01	..	4.75
350	305, 505	1 and 2	..	8.20
550	505, 605	3, 4 and 5	..	12.05
351-C	305, 505	1 and 2	1/4	15.00
551	505, 605	3, 4 and 5	..	18.45
551-C	505, 605	3, 4 and 5	1/4	22.50
551-G	*	3, 4 and 5	..	27.50

*None needed; includes flanges and nut.

No. J5 Stanley Portable Electric Power Planes

With 1-Hp. Universal Motor A.C. and D.C.—110-220 V., 60 Cy. or Less



Will plane surfaces up to 2½ inches wide. Used to fit doors, sash, screens, storm windows, transoms, etc.

Spiral cutter. The fence can be set for straight or bevel cuts up to 45 degrees. The depth of cut can be quickly adjusted for paper thin or heavy cuts up to ⅜ inch, either before or during the cut, by turning the graduated dial on the front of the plane.

Heat treated aluminum body and aluminum alloy housing. Thumb pad cast in shoe of plane. All wiring is inside, insulated and protected. Double pole, momentary contact, safety switch is operated by a trigger. Also provided with a lock to keep switch in On position when desired.

No load speed, 18,000 rpm. Length, 18½ inches.

Standard equipment includes bench bracket, cutter grinding attachment, MS-203 grinding wheel and arbor, No. 4196-S high speed steel spiral plane cutter (2½ inches long, 1⅜ inches in diameter), special wrench, grease gun, and metal carrying case.

When Ordering, specify voltage.

Net weight, 16 pounds; shipping weight, 47 pounds.

No. J5.....each \$195.00

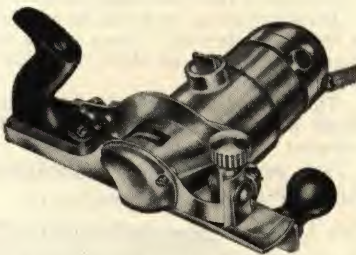
No. J38 Stanley Portable Electric Power Planes

Ball-Bearing—Air-Cooled

½-Hp. Universal Motor, A.C. and D.C.

For 115, 125, 150, 200, 230 or 250 Volts, 60 Cycles or Less

No Load Speed, 20,000 RPM



High speed left hand spiral cutter leaves smooth waveless surface.

Adjustable front shoe sets depth of cut to ⅜-inch. Sturdily built for continuous operation. Length, 10¾ inches.

Designed to dispose of chips in a manner which eliminates the possibility of particles becoming lodged under the plane shoe and marring the finished surface.

Standard equipment: No. 8 motor; No. GA-142 plane attachment; No. GA-30 arbor; No. 4158-S 1⅜-inch spiral cutter, and No. P-4009 wrench. **When ordering,** specify voltage.

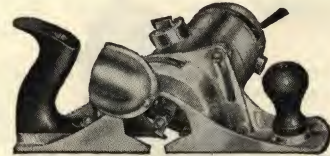
Shipping weight, 9 pounds.

No. J38.....each \$68.50

No. WS8A Stanley Portable Electric Groovers

Ball-Bearing—Air-Cooled

½-Hp. Universal Motor, A.C. and D.C.—For 115, 125, 150, 200, 230 or 250 Volts, 60 Cycles or Less
No Load Speed, 20,000 RPM. on 60 cycles



For making plow and all type grooving cuts in sash doors and transoms. High speed cutter assures smooth, quick and clean work.

Chip guard protects operator's hands and keeps chips from spreading over floor. Will sharpen own cutter by attachment of grinding wheel to motor arbor.

Air-cooled motor with sealed ball bearings. Aluminum alloy housing, highly polished. Tumbler type switch enclosed in motor endshield. Motor spindle, ½ inch diameter. Furnished with 3-wire cord.

Standard equipment: No. 8 motor; No. GA-2⅝-inch diameter cutter arbor; No. GA-92 groover attachment; No. 5005⅝-inch wide cutter; No. MS-201 grinding wheel for sharpening cutter; and No. P4009 wrench. Other cutters ⅛ to ½ inch wide are available.

When ordering, specify choice of voltage.

Shipping weight. 11 pounds.

No. WS8A.....each \$57.80

No. LM1 Stanley Portable Electric Lock Mortisers

Ball Bearing

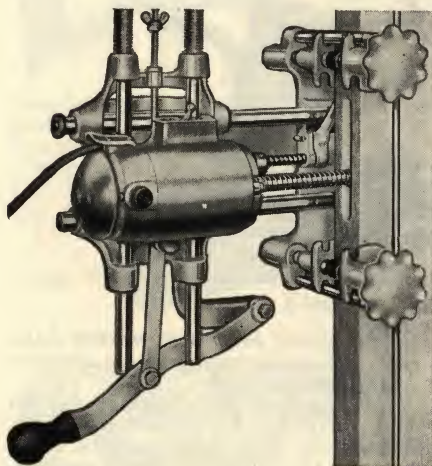
With 1-Hp. Universal Motor—110-220 V., 60 Cy. or Less, A.C. or D.C.

For quick cutting of lock mortise.

Frame and motor housing are made of heat treated high tensile strength aluminum.

Machine can be adjusted from one size lock to another within a minute. The actual cutting time is about 30 seconds per mortise.

The depth and length of the mortise are determined by simple adjustments. Width of the cut is governed by size of cutter used.



Maximum length of stroke, 5¼ inches; maximum depth of cut, 4¾ inches. No load speed, 18,000 rpm.

Standard equipment includes 1-hp. motor, Nos. 12 and 14 lock mortiser cutters, SA-479 grinding pencil, height rod, and handy carrying case.

Net weight, 26½ pounds; shipping weight, 58 pounds.

No. LM1.....each \$195.00

When ordering, specify voltage.

No. RS80 Stanley Portable Electric Routers

Ball Bearing, Air Cooled—With No. GA-2 Arbor for Shaping
With ½-Hp. No. 8 Universal Motor—A.C. and D.C.
For 115, 125, 150, 200, 230 or 250 V.—60 Cycles or Less



Dust-sealed bearings lubricated for life. Aluminum alloy housing. No load speed, 20000 rpm. on 60 cycles. Tumbler switch in motor endshield. Detachable collet chuck; capacity, ¼ inch. Arbor takes cutter with ⅝-inch arbor holes. Motor casing threaded 16 threads per inch to fit threads on router base and other attachments. Diameter of motor, 3⅝ inches. Length overall, 7⅞ inches.

Standard equipment includes motor with arbor, No. GA-74 chuck, No. GA-197 router base with No. GA-207 sub-base, No. 208 bit, No. GA-39 gage, No. GA-192 template guide, wrench and rubber-covered 3-wire cord.

No. RS80, Specify Volt.; Ship. Wt., 9 Lb.....each **\$60.70**

No. R5B Stanley Portable Electric Routers

Ball Bearing—Air Cooled
With 1-Hp. Universal Motor—110-220 V., 60 Cy. or Less, A.C. or D.C.



Has surplus power, high speed, large heat treated shaft, ball bearings, low center of gravity and positive accurate depth adjustment, and is light in weight.

Air-cooled motor has strong aluminum alloy housing. No load speed, 18,000 rpm. Diameter, 3⅞ inches; length, 8½ inches. Screw type chuck, ¾ inch, 16 threads; balanced and ground. Motor casing is threaded and carries a graduated metal ring. Enclosed, double pole switch.

Standard equipment includes 1-hp. Router, straight and circular gage, plain base with mircarta sub-base, No. GA-182 templet guide (⅝-inch diameter), No. S-5803 adapter for ¼-inch shank bits, S-6134 Adapter for ½-inch shank bits, Nos. FG-392 and FG-393 wrenches, and cable.

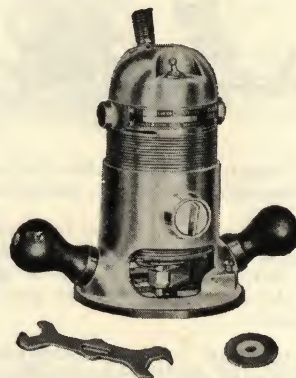
Net weight, 10¾ pounds; shipping weight, 13½ pounds.

No. R5B.....each **\$132.25**

When ordering, specify voltage.

No. HB8A Stanley Portable Electric Hinge Butt Routers

Ball Bearing—Air Cooled
With ½-Hp. No. 8 Universal Motor, A.C. and D.C.
For 115, 125, 150, 200, 230 or 250 V.—60 Cycles or Less



Motor housing screws into router base for very accurate depth adjustment for any thickness of hinge.

Each turn of motor in base represents ⅙ inch; each half turn, ⅓ inch; each quarter turn, ¼ inch.

Maximum projection of bit below base, 1⅛ inches.

No load speed, 20,000 rpm. on 60 cycles.

Aluminum alloy housing.

Standard equipment: motor, bit arbor, router base, templet guide, two No. 2016 bits, grinding wheel, grinding arbor, arbor wrench and 3-wire cord.

Shipping weight, 8½ pounds.

No. HB8A, Specify Voltage.....each **\$59.25**

No. T1 Stanley Lock Face Templets

Used with the hinge butt router to cut lock face mortises. Adjustable for any size lock face plate.

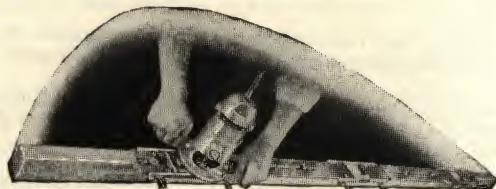
Clamped on the door by two self-centering clamps which insure correct lock location in the center of the door regardless of its thickness.

Direct reading, and can be completely set in a few seconds—only three quick easy adjustments for height on door, and for length and width of mortise.

The face plate of the lock will set perfectly flush with the wood even when the door is beveled.

Net weight, 5 pounds; shipping weight, 8 pounds.

No. T1.....each **\$42.00**

No. T3 Stanley Door and Jamb Templets

Adjustable for any size door and is made to be used on both wood and metal doors and jambs by simply reversing it.

After templet has been set for the size and location of butts (requires only 3 or 4 minutes) merely drive in the pins which are permanently fastened in the templet.

Net weight, 5 pounds; shipping weight, 7 pounds.

No. T3.....each **\$35.00**

No. 38 Cummins Perm-Align 1/4-Inch Portable Electric Drills

With Geared Chuck
Universal Motor, A.C. and D.C.—For 115 Volts



Capacity: 1/4 inch in metal; 1/2 inch in wood.

Die cast aluminum frame with satin finish.

Self-lubricating bronze bearings; ball thrust on chuck spindle. Geared chuck with gear-key. Perm-Align precision-cut gears.

No load speed, 1800 rpm.

Single-pole trigger switch with easy-lock feature. To

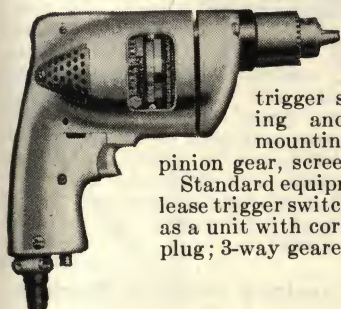
operate press trigger down; instant spring release when trigger is moved up. Rubber-covered, 2-conductor, 6 1/2-foot cord with 2-prong plug. Length, 8 3/4 inches.

No. 38, Complete; Weight, 3 Pounds.....each \$21.95

1/4-Inch Black & Decker Heavy-Duty Portable Electric Holguns

End Handle—Ball Bearing

Universal Motor, A.C. and D.C.—For 115, 220 Volts



Capacity in steel, 1/4 inch; in hardwood, 1/2 inch.

Has pistol grip and trigger switch, new spindle bearing and splined spindle gear mounting, ball-bearings, 12-tooth pinion gear, screened ventilating inlets.

Standard equipment: 2-pole automatic release trigger switch and locking pin mounted as a unit with cord protector. 3-wire cable, plug; 3-way geared chuck and key.

	Standard Speed	Low Speed
Cat. No.....	457	460
Complete, Specify Voltage.....each	\$44.00	\$2.50
No-Load Speed.....rpm.	*1700	†600
Length Overall.....inches	7 1/4	7 5/8
Spindle Offset.....inches	3/4	3/4
Net Weight.....pounds	3 1/4	3 1/2

Optional speeds, no extra cost: *2500, 3500 or 5000 rpm.; †1000 rpm.

1/4-Inch Heavy Duty Black & Decker Holguns

Universal Motor, A.C. and D.C.—For 115 or 220 V.

Standard Speed—Side Handle



Cap.: in steel, up to 1/4 inch; in hardwood, up to 1/2 inch. For heavy duty production drilling. Spl. offset, 3/4 in.; overall lgth., 8 1/8 in.

Speeds: no load, 1700 rpm., with optional speeds of 2500, 3500 or 5000 rpm. at same price; full load, 1150 rpm.

Ball bearings. Standard equipment: 2-pole automatic-release trigger switch and locking pin, mounted as unit with cord protector; 3-jaw geared threaded chuck and key; 3-wire cable and plug.

Net weight, 4 pounds.

Cat. No. 459; Specify Volt....ea. \$46.00

Low Speed—Side Handle

Capacity: same as above. Speeds: no load, 500 rpm., with optional speeds of 750, 1000 or 1500 rpm. at same price; full load, 350 rpm. Overall lgth., 8 3/4 in.

Cat. No. 462, Net Wt., 4 1/4 Lb.; Specify Volt....each \$53.00

No. 30 1/4-Inch Special Black & Decker Portable Electric Drills

Universal Motor, A.C. and D.C.—For 115 or 220 Volts

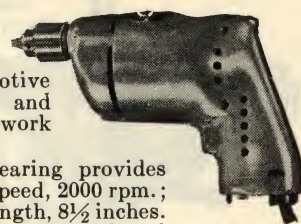
Capacity: in steel, 1/4 inch; in hardwood, 1/2 inch.

For tool kit in maintenance work; plumbing, automotive repair, electrical, carpentry and cabinet work; and on the work bench.

Compo oil-less spindle bearing provides smooth operation. No load speed, 2000 rpm.; full load, 1400 rpm. Overall length, 8 1/2 inches. Standard equipment; 3-jaw geared chuck and key; thumb control switch; 3-conductor cable and plug (3rd wire is for grounding).

Net weight, 3 3/8 pounds; shipping weight, 4 3/4 pounds.

Cat. No. 30, Specify Voltage.....each \$28.00



1/4-Inch Heavy Duty Black & Decker Portable Electric Drills

Universal Motor, A.C. and D.C.—For 115 or 220 Volts

Capacity: in steel, 1/4 inch; in hardwood, 1/2 inch. For constant service production. Spindle gear is spline mounted

and spindle has inner and outer races locked

in place. Ball bearing. No load speed,

2000 rpm.; full load 1300 rpm.

Overall length, 12 1/4 inches.

Standard equipment: 3-jaw

geared chuck and key; 2-pole automatic release switch with locking pin; removable commutator

cover; 3-conductor cable and plug. Net weight, 6 1/2 pounds; shipping weight, 9 5/8 pounds.

Cat. No. 32, Specify Voltage.....each \$52.50

Cat. No. 386, with Keyless Chuck and Gear Locking

Pin.....each 56.00



5/16-Inch Heavy Duty Black & Decker Portable Electric Drills

Universal Motor, A.C. and D.C.—For 115 or 220 Volts



Capacity: in steel, 5/16 inch; in hardwood, 5/8 inch. For continuous

production work. Has hardened alloy steel gears, ball spindle bearing with inner

and outer races locked, threaded chuck and trigger guard. No load speed, 1400 rpm., full load, 925 rpm. Overall length, 12 1/2 inches.

Standard equipment: 3-conductor cable and plug, 3-jaw geared chuck, automatic release switch and locking pin, and grip handle.

Shipping weight, 9 3/4 pounds. Specify voltage.

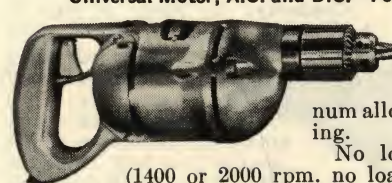
Cat. No. 360, with Geared Chuck and Key....each \$55.00

Cat. No. 387, with Keyless Chuck and Patented Gear

Locking Pin.....each 58.50

No. 490 3/8-Inch Standard Black & Decker Portable Electric Drills

Universal Motor, A.C. and D.C.—For 115 or 220 Volts



Capacity: in steel, 3/8-inch; in hardwood, 5/8-inch. Die-cast aluminum alloy housing. Ball bearing.

No load speed, 900 rpm.

(1400 or 2000 rpm. no load speeds optional at no extra cost); full load, 565 rpm.

Overall length, 12 1/2 inches.

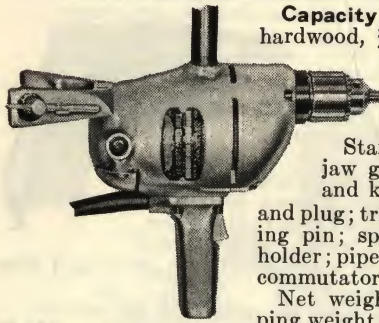
Standard equipment includes: 3-jaw geared threaded chuck and key; automatic-release trigger switch with locking pin; 3-wire cable and plug.

Net weight, 7 1/4 pounds; shipping weight, 8 1/2 pounds.

Cat. No. 490, Specify Voltage.....each \$55.00

No. 362 3/8-Inch Heavy Duty Black & Decker Portable Electric Drills

Universal Motor, A.C. and D.C.—For 115 or 220 Volts



Capacity: in steel, 3/8 inch; in hardwood, 3/4 inch. Standard no load speed, 900 rpm. full load, 700 rpm. Length overall, 13 1/2 inches.

Standard equipment: 3-jaw geared threaded chuck and key; 3-conductor cable and plug; trigger switch with locking pin; spade handle with key holder; pipe handle and removable commutator cover.

Net weight, 9 1/2 pounds; shipping weight, 12 3/4 pounds.

Cat. No. 362, Specify Voltage.....each \$60.00

No. 38 1/2-Inch Special Black & Decker Portable Electric Drills

Universal Motor, A.C. and D.C.—For 115 or 220 Volts

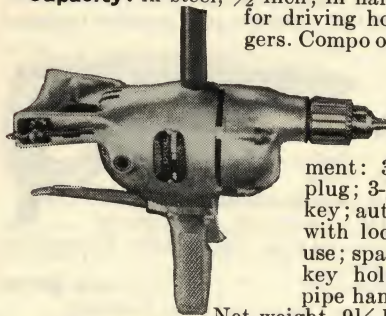
Capacity: in steel, 1/2 inch; in hardwood, 1 inch. Ideal for driving hole saw and wood augers. Compo oil-less spindle bearing.

No load speed, 375 rpm.; full load, 260 rpm. Overall length, 13 1/2 inches.

Standard equipment: 3-conductor cable and plug; 3-jaw geared chuck and key; automatic-release switch with locking pin for optional use; spade handle with chuck key holder; and detachable pipe handle.

Net weight, 9 1/4 lb.; ship. wt., 11 3/4 lb.

Cat. No. 38, Specify Voltage.....each \$47.50

**No. 361 1/2-Inch Standard Duty Black & Decker Portable Electric Drills**

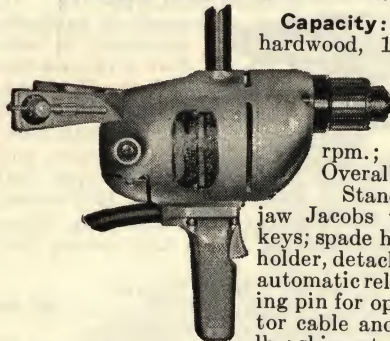
Universal Motor, A.C. and D.C.—For 32, 115 or 220 Volts

Capacity: in steel, 1/2 inch; in hardwood, 1 inch. For maintenance repairs and general use.

Ball bearing. No load speed, 400 rpm.; full load, 300 rpm. Overall length, 13 1/4 in.

Standard equipment: 3-jaw Jacobs threaded chuck and keys; spade handle with chuck key holder, detachable pipe handle and automatic release switch with locking pin for optional use; 3-conductor cable and plug. Net wt., 9 3/4 lb.; ship. wt., 13 lb.

Cat. No. 361, Specify Voltage.....each \$60.00

**No. 40 1/2-Inch Heavy Duty Black & Decker Portable Electric Drills**

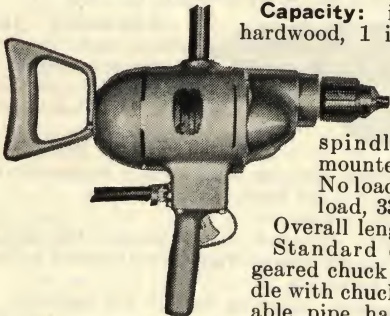
Universal Motor, A.C. and D.C.—For 115 or 220 Volts

Capacity: in steel, 1/2 in.; in hardwood, 1 in. For heavy duty drilling, driving hole saws, wood augers, etc. Ball bearings on chuck spindle. Armature shaft mounted on ball bearings. No load speed, 500 rpm.; full load, 330 rpm.

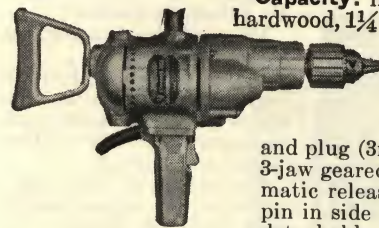
Overall length, 18 1/2 inches.

Standard equipment: 3-jaw geared chuck and key, spade handle with chuck key holder, detachable pipe handle; automatic release switch; 3-conductor cable and plug. Net. Wt. 17 lb.

Cat. No. 40, Specify Voltage.....each \$84.00

**No. 238 5/8-Inch Standard Black & Decker Portable Electric Drills**

Universal Motor, A.C. and D.C.—For 115 or 220 Volts



Capacity: in steel, 5/8 to 3/4 inch; in hardwood, 1 1/4 inches. No load speed, 300 rpm.; full load, 200 rpm. Overall length, 18 inches.

Standard equipment: 3-wire cable and plug (3rd wire for grounding); 3-jaw geared chuck and key; automatic release switch with locking pin in side handle; spade handle; detachable pipe handle. Optional equipment: No. 2 Morse taper

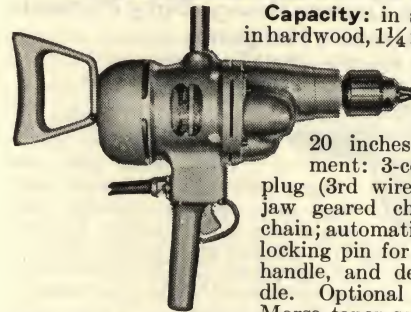
socket in place of chuck. No extra charge.

Net Weight, 17 pounds; shipping weight, 21 3/4 pounds.

Cat. No. 238, Specify Voltage.....each \$79.00

No. 42 5/8-Inch Heavy Duty Black & Decker Portable Electric Drills

Universal Motor, A.C. and D.C.—For 115 or 220 Volts



Capacity: in steel, 5/8 to 3/4 inch; in hardwood, 1 1/4 inches. Ball bearing.

No load speed, 450 rpm.; full load, 320 rpm. Overall length, 20 inches.

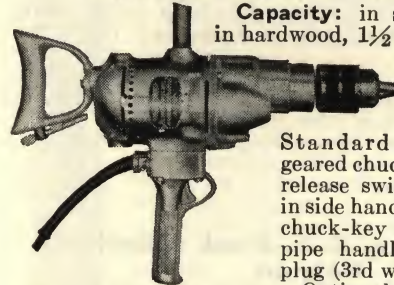
Standard equipment: 3-conductor cable and plug (3rd wire for grounding); 3-jaw geared chuck, key and key chain; automatic release switch with locking pin for optional use; spade handle, and detachable pipe handle. Optional equipment, No. 2 Morse taper socket is furnished in

place of chuck at no extra charge.

Cat. No. 42, Specify Volts.....each \$105.00

No. 239 3/4-Inch Standard Black & Decker Portable Electric Drills

Universal Motor, A.C. and D.C.—For 115 or 220 Volts



Capacity: in steel, 3/8 to 3/4 inch; in hardwood, 1 1/2 inches. Ball bearing.

No load speed, 250 rpm.; full load, 175 rpm. Overall length, 18 3/4 inches.

Standard equipment: 3-jaw geared chuck and key; automatic release switch with locking pin in side handle; spade handle with chuck-key holder; detachable pipe handle; 3-wire cable and plug (3rd wire for grounding).

Optional equipment: Nos. 2 or

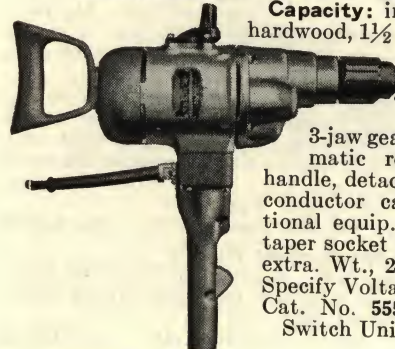
3 Morse taper socket in place of chuck. No extra charge.

Net weight, 19 1/4 pounds; shipping weight, 25 1/2 pounds.

Cat. No. 239, Specify Voltage.....each \$88.00

Black & Decker 3/4-Inch Heavy Duty Portable Electric Drills

Universal Motor, A.C. and D.C.—For 115 or 220 Volts



Capacity: in steel, 3/8-3/4 in.; in hardwood, 1 1/2 in. Ball bearing. No

load speed, 375 rpm.; full load, 280 rpm. Overall lgth. 21 in. Std. equip.:

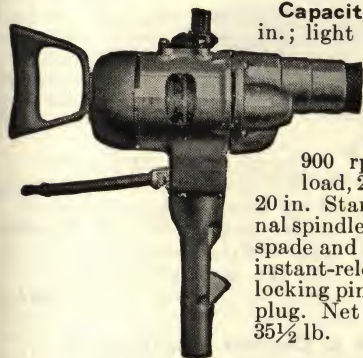
3-jaw geared chuck, key, automatic release switch, span handle, detachable pipe handle; 3-conductor cable and plug. Optional equip. Nos. 2 or 3 Morse taper socket in place of chuck, no extra. Wt., 27 1/4 lb. Cat. No. 45, Specify Voltage.....each \$115.00

Cat. No. 555, Reversing

Switch Unit.....each 125.00

No. 47 1-Inch Black & Decker Portable Electric Drills

Universal Motor, A.C. and D.C.—For 115 or 220 Volts

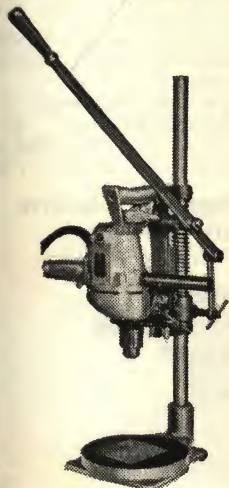


Capacity: drilling in steel, 1 in.; light reaming, $\frac{3}{4}$ in.; heavy reaming, $\frac{5}{8}$ in. For structural work. Ball bearing. No load speed, 350 rpm. (special speeds 275, 600 or 900 rpm., \$5.00 extra); full load, 275 rpm. Overall length, 20 in. Standard equipment: internal spindle with No. 3 M.T. socket, spade and detachable pipe handle, instant-release safety switch with locking pin; 3-conductor cable and plug. Net wt., 28 $\frac{1}{2}$ lb.; ship. wt., 35 $\frac{1}{2}$ lb.

Cat. No. 47, Specify Voltage.....each **\$130.00**

Cat. No. 556, Reversing Switch Unit, Specify Voltage.....each **140.00**

Black & Decker Drill Stands



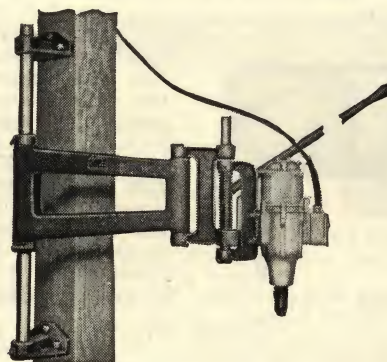
Drill stands quickly adapt portable drills to drill press operations, for heavy duty and accurate work.

Handle leverage permits tremendous pressure; bracket adjustable for height and lateral position; one bracket fits several tools and no adaptors are required.

Cat. No.	Stand Each Size	FOR USE WITH		Max. Feed In.	C-L Bit to Col. In.	Ship. Wt. Lb.
		Cat. No.	Cap., In.			
22148 Bench	\$22. 20	345,346	$\frac{1}{4}$	2 5 $\frac{1}{4}$	19 $\frac{1}{2}$	
		31	$\frac{1}{4}$			
		30	$\frac{1}{4}$			
		32,386	$\frac{1}{4}$			
		387,360	$\frac{5}{16}$			
		490	$\frac{3}{8}$			
		402,350	†No. 10			
		383	$\frac{3}{16}$			
		53,169	†No. 14			
		54,164	†No. 18			
22145 Bench	29. 40	90	$\frac{1}{4}$	4 6	37	
		362	$\frac{3}{8}$			
		38	$\frac{1}{2}$			
		361	$\frac{1}{2}$			
		40	$\frac{1}{2}$			
		238	$\frac{5}{8}$			
13857 Bench	45. 60	42	$\frac{5}{8}$	4 8	69	
		239	$\frac{3}{4}$			
		45	$\frac{3}{4}$			
		47	1			
26607 Bench	60. 80	494	1 $\frac{1}{4}$	4 12	90	

*Heavy duty drill. †Wood screw. ‡Screwdriver and nut runner.

No.20057 Black & Decker Radial Arms



The radial arm is particularly adaptable to chain production methods. The arm has a vertical adjustment up and down the column and the weight is carried by a ball thrust bearing which makes it easy to swing the arm into any desired position.

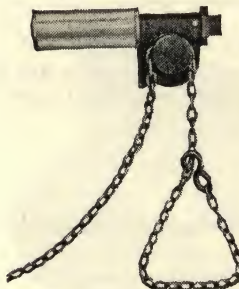
Furnished with heavy brackets that bolt or clamp to wall or post, and support the large steel vertical column which carries the arm. The arm, bracket and handle are of cast iron; the two columns and the spring are of steel.

Vertical travel of bracket, 4 inches. Travel of arm on column, 24 inches. Angle of swing, 180°. Distance, center of column to elbow, 22 inches; elbow to spindle of electric tool, 14 inches. Angular adjustment of electric tool bracket, 255°. Effective area of operation of arm is within radii from 19 to 36 inches from column.

In ordering, be sure to specify type and size of electric tool to be used so right adapter will be supplied.

No. 20057, Complete. Weight, 180 Pounds...each **\$165.00**

SKIL Drill Pressure Handles For Portable Electric Drills



Fits all SKIL Drills listed below and all other makes of portable electric drills equipped with pipe handles. Speeds drilling in all types of awkward positions—overhead, headhigh, or from ladders and scaffolds. Also makes drilling in steel an easy job.

No pressure is required by the operator. He merely guides the tool and controls drilling pressure by turning the ratchet handle. Length, 8 in.; width, $\frac{3}{4}$ in. Length of chain, 4 ft. Net wt., 2 $\frac{1}{2}$ lb.; ship. wt., 3 lb.

No. 5770

Fits SKIL Drills Nos. 64 and 80, or any drill with $\frac{7}{8}$ x18 thread pipe handle.

No. 5770.....each **\$19.95**

No. 5771

With adapter plate with hole threaded $\frac{7}{8}$ x18—fits SKIL Drill No. 83.

No. 5771.....each **\$19.95**

No. 5772

Fits any drill with $\frac{1}{2}$ -inch N.P.T. pipe handle.

No. 5772.....each **\$19.95**

No. 5773

Fits SKIL Drills Nos. 103, 123, 163, 2103, and 141, or any drill with $\frac{3}{4}$ -inch N.P.T. pipe handle.

No. 5774.....each **\$19.95**

No. 5774

Fits SKIL Drills Nos. 103, 123, 163, 2103, and 143, or any drill with 1-inch N.P.T. pipe handle.

No. 5773.....each **\$19.95**

No. 5775

Adapter plate only, for mounting No. 5770 on SKIL Drill No. 83.

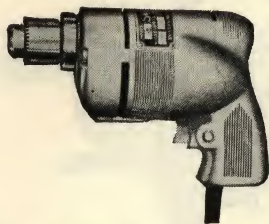
No. 5775.....each **\$2.50**

No. 45 1/4-Inch Constant Duty Portable Electric SKIL Drills

Universal Motor, A.C. and D.C.—For 115, 220 or 250-V., Up to 60 Cy.

Capacity: in steel, 1/4 inch; in hardwood, 1/2 inch. For aircraft, furniture, radio, refrigerator, automobile and other industrial drilling. Anti-friction ball bearings. Double-pole switch, bakelite enclosed, momentary contact with lock for continuous operation. No load speed, 1800 rpm.; 2500, 3500 or 5000 rpm. speeds optional. Full load speed, 1050 rpm. Overall length, 6 5/8 in. Equipment includes 3-jaw chuck and key; 3-conductor rubber cord with connector. Net weight, 2 3/4 pounds.

No. 45, Specify Voltage.....each **\$41.00**
Slow speed, (no load) 550, 750 or 1000 rpm., \$6.00 extra.
Keyless chuck, \$3.00 extra.



No. 47 1/4-Inch Heavy Duty Portable Electric SKIL Drills

Universal Motor, A.C. and D.C.—For 115, 220, or 250 Volts, 60 Cycles

For use in aircraft plants and similar production work. Fits in anywhere a fist will fit. Ideal for assembly lines.

Capacity in steel, 1/4-inch; in hardwood, 1/2-inch.

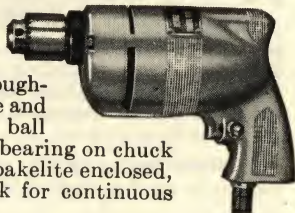
Anti-friction bearings throughout; ball bearings on armature and intermediate spindle; one ball bearing and one needle-roller bearing on chuck spindle. Double-pole switch, bakelite enclosed, momentary contact with lock for continuous operation.

No load speed, 1800 rpm.; 2500, 3500 or 5000 rpm. speeds optional. Full load speed, 1270 rpm. Overall length, 7 1/4 inches.

Equipped with 1/4-inch capacity 3-jaw chuck with key; 3-conductor rubber-covered cord with unbreakable connector.

Net weight, 3 1/4 pounds. Shipping weight, 4 1/2 pounds.

No. 47, Specify Voltage.....each **\$44.50**
Slow speed, (no load) 550, 750 or 1000 rpm., \$6.00 extra.
Keyless chuck, \$3.00 extra.



No. 12 Black & Decker Portable Electric Scruguns

Universal Motor, A.C. and D.C.—For 115 or 220 Volts



Capacity: Wood screws up to No. 12x2 in.; self-tapping screws to 1/4 in.; lag screws to 3/16x2 in.; machine screws and nuts to 1/4-in. diam.

Positive clutch allows spindle to idle to permit engaging the fastener.

Adjustable clutch drives each fastener automatically to a pre-determined, uniform tightness; secondary clutch disengages when resistance overcomes its pre-set spring load.

No load speed, 600 rpm.; optional, 1000 rpm.

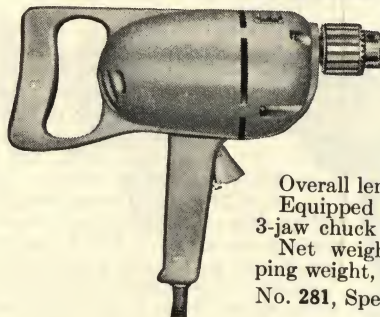
Standard equipment: 3-wire cable and plug; No. 13207 bit with protector, centering and spring sleeves.

	Positive	Adjustable
No.	402	350
Specify Voltage.....	\$59.50	76.00
Overall Length Including Bit..... inches	9	10 3/4
Net Weight..... pounds	3 3/4	4
Shipping Weight..... pounds	5	5 1/2

On special order, 125 or 240 volts.

No. 281 1/2-Inch Intermittent Duty Portable Electric SKIL Drills

Universal Motor, A.C. and D.C.—For 115, 220 or 250 Volts, Up to 60 Cycles



Capacity in steel 1/2 inch; in hardwood, 1 inch.

Lightweight.

Has detachable pipe handle and combination spade handle.

Overall length, 12 3/4 inches.

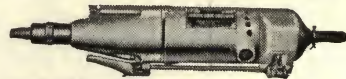
Equipped with 1/2-inch capacity 3-jaw chuck with key.

Net weight, 8 3/4 pounds; shipping weight, 10 pounds.

No. 281, Specify Voltage.....each **\$47.50**

No. 4 Black & Decker Torsimeter Adjustable Clutch Portable Electric Screwdrivers

Universal Motor, A.C. and D.C.—For 115 or 220 Volts



Capacity: up to No. 4 screws.

Ideal for driving screws of all types, including slotted and hex heads, in metal or wood. No load speed, 1000 rpm. Overall length, including bit, 11 1/2 inches.

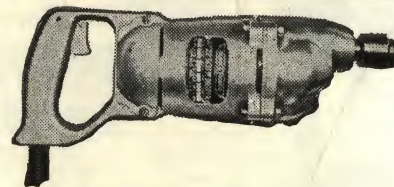
Equipped with 3-wire cable with plug, toggle switch mounted in end cap, and No. 13208 bit with centering sleeve, spring sleeve and protector sleeve.

Net weight, 2 3/4 pounds; shipping weight, 4 pounds.

Cat. No. 244, with Paddle Switch, Specify Voltage.....each **\$88.00**
Add for Reversing Switch.....each 7.50

No. 14 Black & Decker Portable Electric Screwdrivers and Nut Runners

Universal Motor, A.C. and D.C.—For 115 or 220 Volts



With Positive Clutch

Capacity: wood screws, up to No. 14x2 1/2 inches; self-tapping screws, up to 1/16-inch diameter; lag screws, up to 1/4x2 inches; machine screws and nuts, up to 3/8-inch diameter. No load speed, 500 rpm.

Standard equipment: 3-conductor cable and plug, quick-change chuck with 7/16-inch hexagon socket; one No. 5330 and one No. 5344 standard bits with centering sleeves; automatic-release switch with locking pin.

No. 14, with 20° Positive Clutch

Adapted to screw driving in metal or wood, nut tightening, lag screw driving, etc. When equipped with reversing switch, it is ideal for assembling and disassembling pieces that are shipped knocked down. Overall length not including bit, 13 1/4 inches. Net weight, 6 3/4 pounds; shipping weight, 9 pounds.

Cat. No. 53, Specify Voltage.....each **\$72.00**

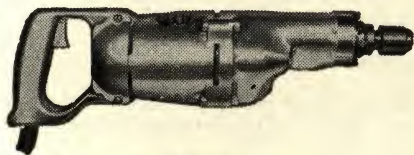
No. 14, with Adjustable Clutch

Adjustable clutch feature insures uniform operation and tends to cushion the torque, reducing the twisting motion of the driver. Overall length not including bit, 15 1/2 inches. Net weight, 8 pounds; shipping weight, 12 pounds.

Cat. No. 169, Specify Voltage.....each **\$99.00**
For special speeds of 750, 1000 or 1600 rpm., add \$2.50.
For reversing switch, add \$7.50.

No. 18 Black & Decker Portable Electric Screwdrivers and Nut Runners

Universal Motor, A.C. and D.C.—For 115 or 220 Volts



Adjustable Clutch

Capacity: wood screws up to No. 18x3½ inches, self-tapping screws up to ⅝-inch diameter, lag screws up to ⅝x3 inches, machine screws and nuts up to ½-inch diameter. No load speed, 500 rpm.

Standard equipment: 3-conductor cable and plug, quick-change chuck with ⅞-inch hexagon socket, one No. 5343 and one No. 5329 standard bits with centering sleeves; automatic-release switch with locking pin.

No. 18, with Adjustable Clutch

Adjustable clutch feature insures uniform operation and tends to cushion the torque, reducing the twisting motion of the driver. Overall length, not including bit, 17¼ inches. Net weight, 10½ pounds; shipping weight, 16 pounds. Cat. No. 164, Specify Voltage.....each \$108.00

No. 18, with 20° Positive Clutch

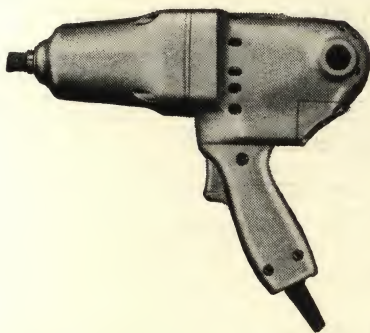
Adapted to screw driving in metal or wood, nut tightening, lag screw driving, etc. When equipped with reversing switch, it is ideal for assembling and disassembling pieces that are shipped knocked down.

Overall length, not including bit, 14¼ inches. Net weight, 9 pounds; shipping weight, 11¾ pounds. Cat. No. 54, Specify Voltage.....each \$82.00

Special speeds of 750, 1000 or 1600 rpm., add \$2.50. For reversing switch, add \$7.50.

No. 534 ⅜-Inch Black & Decker Portable Electric Impact Wrenches

Universal Motor, A.C. and D.C.—For 115 or 220 Volts
Cast Aluminum Housing



Capacity: nuts, bolts and cap-screws, ⅜-inch thread size. For rapid tightening of nuts, bolts, etc. In tightening, wrench spins free-running fastener to seating position by high speed drive. Clutch engages hammering action. Reversing switch for removing fasteners. No stall or burnout.

Blows per minute, 2000. Overall length, 11¾ inches.

Drive square, ½ inch.

Standard equipment: 3-conductor cable and plug; pistol-grip side handle with automatic-release switch; reversing switch.

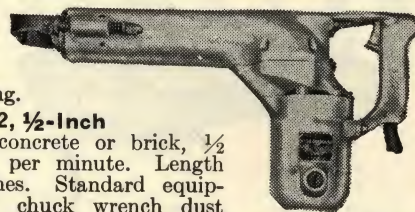
Net weight, 8¼ pounds.

No. 534, Specify Voltage.....each \$105.00

Black & Decker Portable Electric Hammers

Universal Motor, A.C. and D.C.—For 115, 220 Volts

For drilling, channeling, caulking, tamping, gouging and shaping.



No. 102, ½-Inch

Capacity: in concrete or brick, ½ inch; 2400 blows per minute. Length overall, 12⅞ inches. Standard equipment: No. 22587 chuck wrench dust shield, ½-inch speed-bit, 3-conductor cable and plug, rocker type switch, tool retaining spring, drift key, carrying case and can of oil. Net weight, 5¾ pounds. Cat. No. 102, Specify Voltage.....each \$105.00

No. 103, ¾-Inch

Capacity: in concrete or brick, ¾ inch; 2300 blows per minute. Length overall, 14⅝ inches. Standard equipment: No. 22587 chuck wrench, dust-shield, ¾-inch star-drill, 3-conductor cable and plug, trigger switch, tool retaining spring, drift key, carrying case and can of oil. Net weight, 10¾ pounds. Cat. No. 103, Specify Voltage.....each \$138.00

No. 104, 1⅝-Inch

Capacity: in concrete or brick, 1⅝ inches; 2200 blows per minute. Length overall, 18⅝ inches. Standard equipment: No. 22754 chuck wrench, dust-shield, 1-inch star-drill, 3-conductor cable and plug, trigger switch, tool retaining spring, drift key, carrying case and can of oil. Net weight, 19¼ pounds. Cat. No. 104, Specify Voltage.....each \$168.00

No. 105, 2-Inch (Type D)

Capacity: in concrete or brick, 2 inches; 1950 blows per minute. Length overall, 20¼ inches. Standard equipment: No. 21726 turning handle, 1½-inch star-drill, 3-conductor cable and plug, trigger switch, tool retaining yoke, carrying case and can of oil. Net weight, 29¼ pounds. Cat. No. 105, Specify Voltage.....each \$215.00

No. S-412 Milwaukee Tri-Speed Right Angle Portable Electric Drill Sets

⅓ Hp. Motor, A.C. and D.C.—For 115 Volts, 60 Cycles
Listed by Underwriters' Laboratories



A multi-purpose tool for general contractors, plumbers, electricians, sheet metal and maintenance men.

Provides the right power plus a choice of operating speeds and torque in proper combination to suit practically any drilling job.

For drilling, grinding, polishing or buffing.

For drilling in wood, glass, metal, ceramics, stone composition material terrazzo, formica, tile, concrete, etc.

Available in six models of ¼ to ½-inch chuck capacities. Drill has 3 separate speeds from 100 to 3000 rpm.

Helical cut triple reduction gears of heat-treated chrome nickel steel provides for high torque. Heat-treated alloy steel armature shaft and chuck spindle run on ball and roller bearings. Double pole control switch, lockable for continuous running. Head swivels to full 360° and is lockable in any position. Removable side handle attachable anywhere to the exposed collar of the drill unit or right angle drive assembly to permit right or left hand operation.

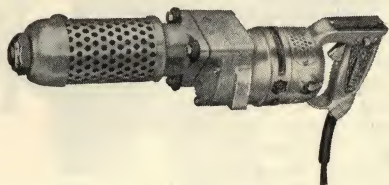
Set includes hole shooter and right angle drive attachment with Jacobs geared key chuck, 3-wire heavy duty rubber cord and unbreakable plug. Packed in metal carrying case with ¼-inch auger bit, special 1⅝ and 2⅞-inch magic feed bits and utility wrench.

Weight drill only, 9 pounds.

No. S-412, Set Complete.....each \$88.75

No. H-856X Milwaukee Electric Hammers

Universal Motor, A.C. and D.C.—For 32, 110, 220 or 250 Volts—25, 40 or 60 Cycles



A small lightweight portable electric tool for electricians, plumbers, contractors, sign men, stone cutters and numerous other jobs where large pneumatics cannot be used.

Efficient operating range, $\frac{3}{16}$ to $\frac{3}{4}$ inch. Maximum operating diameter, $1\frac{1}{8}$ inch. Capacity in concrete, $\frac{1}{2}$ -inch hole 3 inches deep in 60 seconds.

Blows per minute, approximately 3000.

Length overall, $16\frac{1}{8}$ inches.

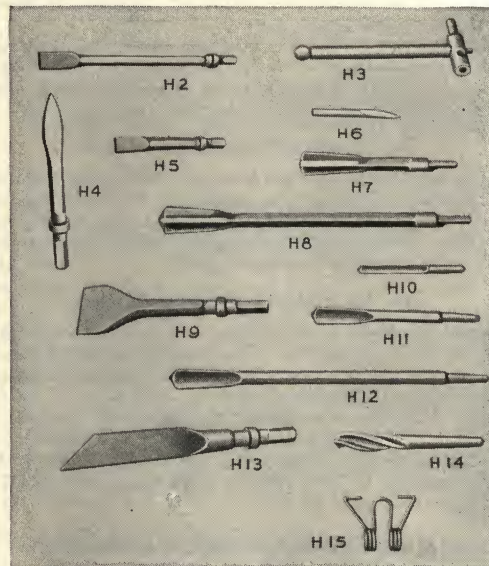
Furnished complete with 3-wire heavy duty grounded cord, steel carrying case, star drill chuck, drift key, $\frac{1}{2}$ -inch star drill, tool retaining spring and $\frac{1}{2}$ -pound high temperature grease.

Net weight, $11\frac{1}{2}$ pounds.

No. H-856X.....each \$98.00

Milwaukee Electric Hammer Accessories

No. H1 Milwaukee Turning Handle.....	each	\$1.35
No. H2 Cold Chisel, $\frac{5}{8}$ x12 Inches.....	each	3.75
No. H3 Star Drill Chuck.....	each	3.75
No. H3A Rawl Drill Chuck for Rawl Drills Nos. 6 to 14.....	each	3.75
No. H3B Rawl Drill Chuck for Rawl Drills No. 16, $\frac{5}{16}$ to $\frac{7}{8}$ Inch.....	each	3.75
No. H4 Bull Point.....	each	3.30
No. H5 Cold Chisel, $\frac{5}{8}$ x7 Inches.....	each	3.30
No. H6 Drift Pin for Star and Rawl Drill Chucks.....	ea.	.30
No. H9 Brick Cleaning Chisel.....	each	3.50
No. H13 Mortar Cutting Chisel.....	each	4.00
No. H15 Tool Retaining Spring.....	each	1.50
Special Hammer Cylinder Grease.....	pound	.85

**Milwaukee Masonry Drills****No. H7 Taper Shank Star Drills**

Diameter.....inches	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{8}$
6-Inch Shank.....each	\$.95	\$1.00	\$1.00	\$1.00	\$1.00	\$.90	\$.95	\$1.00	\$1.10	\$1.25	\$1.35
12-Inch Shank.....each	\$1.00	1.00	1.10	1.15	1.15	1.15	1.35	1.60	1.65	1.75	....
18-Inch Shank.....each	1.10	1.10	1.20	1.25	1.25	....	....	....	....	....	....

Milwaukee star drill chuck required for No. H3 taper shank drills.

No. H8 Differential Shank Star Drills

Diameter..inches	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{5}{8}$	$\frac{11}{16}$	$\frac{3}{4}$	$\frac{13}{16}$	$\frac{7}{8}$	$\frac{15}{16}$	1	$1\frac{1}{8}$
8-Inch Shank ea.	\$2.50	....	\$2.45	....	\$2.35	\$2.25	\$2.25	\$2.25	\$2.25	....	\$2.25	\$2.25	\$2.30
12-Inch Shank ea.	3.40	\$3.40	3.25	\$3.25	....	....	....	....	....	....	....	....	....
18-Inch Shank ea.	3.40	3.40	3.40	3.25	3.25	3.20	....	3.25	....	3.50	....	....	....

Milwaukee turning handle required for No. H1 12-inch differential shank drills.

No. H-10 Rawl Drills

No. 6, $\frac{5}{32}$ Inch.....	each	\$.85	No. 14, $\frac{9}{32}$ Inch.....	each	\$.95
No. 8, $\frac{11}{64}$ Inch.....	each	.85	No. 16, $\frac{5}{16}$ Inch.....	each	1.00
No. 10, $\frac{3}{16}$ Inch.....	each	.85	No. 20, $\frac{3}{8}$ Inch.....	each	1.25
No. 12, $\frac{1}{4}$ Inch.....	each	.85			

Use No. H3A rawl drill chuck.

No. H-11 Rawl Drills

Size $\frac{7}{16}$ x6 Inches.....	each	\$1.50	Size $1\frac{1}{16}$ x6 Inches.....	each	\$1.75
Size $\frac{1}{2}$ x6 Inches.....	each	1.50	Size $\frac{3}{4}$ x6 Inches.....	each	1.90
Size $\frac{9}{16}$ x6 Inches.....	each	1.75	Size $\frac{13}{16}$ x6 Inches.....	each	2.00
Size $\frac{5}{8}$ x6 Inches.....	each	1.75	Size $\frac{7}{8}$ x6 Inches.....	each	2.00

Use No. H3B rawl drill chuck.

No. H-12 Rawl Drills

Size $\frac{7}{16}$ x12 Inches.....	each	\$1.75	Size $\frac{3}{4}$ x12 Inches.....	each	\$2.20
Size $\frac{1}{2}$ x12 Inches.....	each	1.75	Size $\frac{7}{8}$ x12 Inches.....	each	2.30
Size $\frac{5}{8}$ x12 Inches.....	each	1.75			

Use No. H3B rawl drill chuck.

No. H-14 Hamrtwist Drills

Size $\frac{3}{16}$ x5 Inches.....	each	\$.90	Size $\frac{7}{16}$ x5 Inches.....	each	\$1.70
Size $\frac{1}{4}$ x5 Inches.....	each	1.00	Size $\frac{1}{2}$ x5 Inches.....	each	1.80
Size $\frac{5}{16}$ x5 Inches.....	each	1.10	Size $\frac{9}{16}$ x5 Inches.....	each	1.90
Size $\frac{3}{8}$ x5 Inches.....	each	1.25	Size $\frac{5}{8}$ x5 Inches.....	each	2.00

Use No. H3 Milwaukee star drill chuck.

Black & Decker Hammer Tools

Star Drills (B and C)

For 1/4 to 3/4-inch holes (taper A shank). Use with 1/2 or 3/4-inch capacity hammers. These star drills may also be used with 1 1/8-inch hammer and chuck wrench No. 22749, with risk of excessive bit breakage.

No.	Each	Point Diam. In.	Over-all Lgth. in.	Qty. in Box.	No.	Each	Point Diam. In.	Over-all Lgth. in.	Qty. in Box.
7167	\$.70	1/4	5	6	7162	\$.85	5/8	9	6
7168	.75	3/8	5	6	9372	1.45	5/8	18	1
7160	.75	3/8	5	6	7171	1.00	1 1/16	9	6
7169	.80	7/16	5	6	7163	1.00	3/4	9	6
7161	.80	1 1/2	9	6	9380	1.55	3/4	18	1
9364	1.25	1 1/2	18	1	9382	2.00	3/4	24	1
7170	.85	9/16	9	6	....	....	....	....	....

For 1 1/16 to 1 1/8-inch holes (taper B shank). Use with 1 1/8-inch hammer. Also may be used with 3/4-inch hammer and wrench No. 23806; 2-inch (C) hammer and chuck head No. 22510; 2-inch (D) hammer and chuck head 33747.

24673	\$1.00	1 1/16	9	6	9390	\$2.20	1 1/8	24	1
23081	1.00	3/4	9	6	7173	1.20	1 1/16	9	6
23082	1.55	3/4	18	1	7096	1.20	1	9	6
23083	2.00	3/4	24	1	9396	1.75	1	18	1
7172	1.10	1 3/16	9	6	9398	2.20	1	24	1
7097	1.10	7/8	9	6	10751	1.50	1 1/8	12	6
9388	1.75	7/8	18	1	10981	2.50	1 1/8	24	1

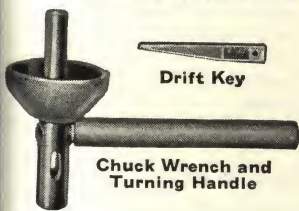
For 1 1/4 to 2-inch holes (No. 4 shank). Use with 2-inch (Type D) hammer only.

33757	\$3.50	1 1/4	18	1	33762	\$5.00	1 1/2	30	1
33758	4.25	1 1/4	30	1	33763	4.75	1 3/4	18	1
33759	3.85	1 3/8	18	1	33764	5.50	1 3/4	30	1
33760	4.65	1 3/8	30	1	33765	5.25	2	18	1
33761	4.25	1 1/2	18	1	33766	6.00	2	30	1

For 1 1/4 to 2-inch holes (No. 2 shank). For use with former 2-inch (Type C) hammer. Also may be used with 1 1/8-inch hammer and turning handle No. 21726 although bits are beyond the efficiency range of 1 1/8-inch hammer.

21942	\$2.60	1 1/4	18	1	21947	\$4.15	1 1/2	30	1
21943	3.30	1 1/4	30	1	21948	3.60	1 3/4	18	1
21944	2.90	1 3/8	18	1	21949	4.65	1 3/4	30	1
21945	3.85	1 3/8	30	1	21950	4.15	2	18	1
21946	3.15	1 1/2	18	1	21951	5.25	2	30	1

Chuck Wrenches and Turning Handles



Used with star drills and diamond points to adapt the widest possible range of tool sizes to various hammers; combinations of shank sizes (fitting nose of hammer) and taper sockets (fitting drill tapers) are shown in the following table.

Build to withstand hammer impact, and their turning handles are spline mounted to avoid breakage and to absorb vibration.

Chuck Wrenches

No.	Each	USE WITH HAMMER—Cap., In.	Type	No.	Taper
22587	\$5.00	1/2 and 3/4	...	1	A
23806	5.25	1/2 and 3/4	...	1	B
22749	5.50	1 1/8 and 2	C	2	A
22754	6.25	1 1/8 and 2	C	2	B
22510	5.50	1 1/8 and 2	C	2	B
33747	5.00	2	D	4	B

Turning Handles

21726	\$3.00	1 1/8 and 2	C	...	...
33745	2.75	2	D	...	...

No. 7276 Drift Keys

For all chuck wrenches; used to remove taper shank bits from socket of chuck wrench.

No. 7276,each \$.40

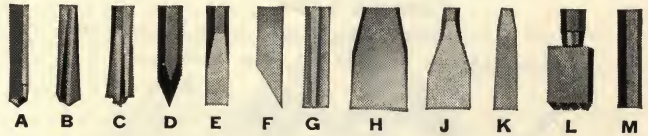
Tool Retaining Springs



Spring is used to hold straight-shank tools in the nose piece of hammer.

No. 10909, for 1/2 and 3/4-Inch Capacity Hammers.....each \$.20

No. 21750, for 1 1/8-Inch Capacity Hammers.....each .25



Speed Bits (A)

For use with 1/2 or 3/4-inch hammers.

No.	Size Inches	Per Dozen	No.	Size Inches	Per Dozen
23453	3/16x3	*\$6.60	11367	1 1/2x9	*\$8.40
11363	1/4x3 1/2	*6.60	24025	3/16x5	*8.40
11364	3/16x3 3/4	*7.20	11368	3/16x9	*9.00
11365	3/8x4	*7.20	24026	5/8x9	*8.40
11366	7/16x4 1/2	*7.80	11369	5/8x9	*9.00
24024	1 1/2x5	*7.80	....	....	....

Cold Chisels (E)

No.....	11108	7095	9405	33659
Each.....	\$1.65	1.90	2.75	2.85
Size.....inches	*3/8x8	†7/8x9	†7/8x20	†7/8x20

No. 9039 Flat Wood Chisels (H)

No. 9039, Size, †2x9 Inches.....each \$4.15

Scaling Chisels (J)

No.....	12446	17314	17315	12401	22886	22887
Each.....	\$2.35	2.50	2.60	2.65	2.75	4.65
Size.....in.	*1 1/4x9	*1 1/2x9	*2x9	†1 1/2x12	†2x12	†2 1/2x12

*1/2 or 3/4-inch hammer.

†1 1/8 or 2-inch (Type C) hammer.

†2-inch (Type D) hammer.

Miscellaneous Hammer Tools

Tool Blanks (M)

No.	Size Inches	FOR HAMMER—Cap., In.	Type	Each
11107	7	1 1/2 or 3/4	..	\$1.25
7267	8	1 1/8 or 2	C	1.40
33666	12	2	D	1.65

Seam Tools (F)

17232	9	1 1/2 or 3/4	..	\$2.50
9035	9	1 1/8 or 2	C	2.60

Bull Points (D)

23804	10	1 1/2 or 3/4	..	\$1.80
23805	18	1 1/2 or 3/4	..	2.50
9036	12	1 1/8 or 2	C	2.00
9410	20	1 1/8 or 2	C	2.75
33662	12	2	D	1.85
33663	20	2	D	2.65

Bushings Tools (L)

11624	8	1/2 or 3/4	..	\$6.85
9040	9	1 1/8 or 2	C	6.85
10684	..	Bushing Tool Head Only	..	5.25

4-Point Scaling Tools (G)

17335	9	1 1/2 or 3/4	..	\$2.50
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Concrete Slotting Tools (K)

32112	11 1/2x1 1/4	1/2 or 3/4	..	\$3.95
32113	18 x1 1/2	1 1/8 or 2	C	4.75
33670	18	2	D	4.00

Dust Shields

Used in overhead drilling to prevent dust from entering nose piece of the hammer.

No. 17746, for Chuck Wrenches Nos. 22587, 23806, 22510...ea. \$.40

No. 17747, for Chuck Wrenches Nos. 22749 and 22754.....ea. .40

Hammer Lubricating Oil

No. 22926, 3-Ounce Can.....each	\$3.35
No. 22930, 1-Pound Container.....each	.70
No. 22931, 2-Pound Container.....each	1.35
No. 32906, 5-Pound Container.....each	3.00

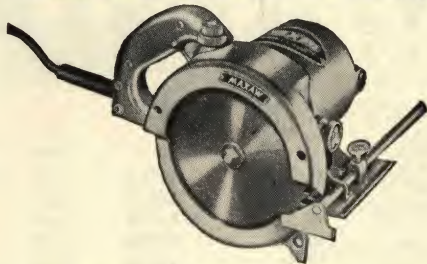
Carrying Cases

No. 18296, for 1/2-Inch Cap. Hammer.....each	\$11.00
No. 18389, for 3/4-Inch Cap. Hammer.....each	13.50
No. 21003, for 1 1/8-Inch Cap. Hammer.....each	16.50
No. 18679, for 2-Inch Cap. Hammer.....each	18.50

Cummins Maxaw 700 Heavy Duty Portable Electric Saws

With Magic Pivot

Universal Motor, A.C. and D.C.—For 115 Volts



Depth of cut: $2\frac{1}{16}$ inches at 90° ; $1\frac{7}{8}$ inches at 45° . Parallel depth adjustment, $\frac{3}{16}$ to $2\frac{1}{16}$ inches at 90° . Blade diameter, $6\frac{3}{8}$ inches. Ball bearings on armature—ball and roller bearings on saw shaft.

Magic pivot point is as close as possible to the saw shaft to give deep cuts at 45° . Gears with hardened steel armature pinion and hardened steel alloy on shaft. Telescopic safety guard riding on ball bearings provides snap-back action. Frame of die cast aluminum alloy.

No load speed, 5500 rpm.

Motor can also be furnished for 220 volts on special order.

Double-pole, momentary contact switch with lock button. Rubber covered, 3-conductor, 12-foot cord with two-prong plug and pigtail connection for ground.

Length overall, $11\frac{1}{8}$ inches.

Furnished complete with one $6\frac{3}{8}$ -inch combination blade, wrench and rip fence guide.

Weight: net, 10 pounds; shipping, 15 pounds.

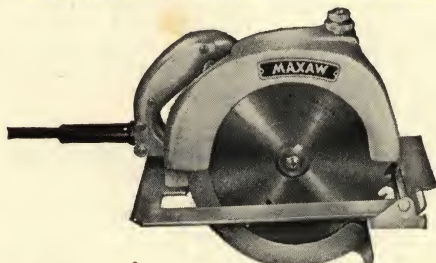
No. 700, Complete.....each \$69.50

No. 702, Complete with Steel Carrying Case...each 79.50

Cummins Maxaw 800 Heavy Duty Portable Electric Saws

With Magic Pivot

Universal Motor, A.C. and D.C.—For 115 Volts



Depth of cut: $2\frac{5}{8}$ inches at 90° ; $2\frac{3}{16}$ inches at 45° . Parallel depth adjustment, $\frac{5}{8}$ to $2\frac{5}{8}$ inches at 90° . Blade diameter, 8 inches. Can accommodate an $8\frac{1}{4}$ -inch blade which will cut $2\frac{3}{32}$ inches at 45° and $2\frac{3}{4}$ inches on a straight cut. Ball bearings on armature; ball and roller bearings on saw shaft.

Magic pivot point is as close as possible to the saw shaft to give deep cuts at 45° . Gears with hardened steel armature pinion and hardened steel alloy on saw shaft. Telescopic safety guard riding on ball bearings provides snap-back action. Frame of die cast aluminum alloy.

No load speed, 4600 rpm.

Motor can be furnished for 220 volts on special order.

Double-pole, momentary contact switch with lock button. Rubber-covered, 3-conductor, 12-foot cord with 2-prong plug and pigtail connector for ground.

Length overall, 12 inches.

Furnished complete with one 8-inch combination blade, wrench and rip fence guide.

Weight: net, 14 pounds; shipping, 22 pounds.

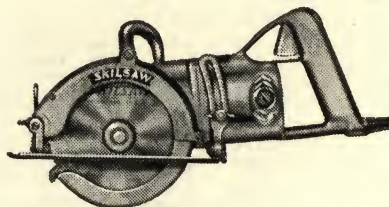
No. 800, Complete.....each \$89.50

No. 802, Complete with Steel Carrying Case...each 99.50

No. 67 Portable Electric SKIL Saws

6-Inch Blade

Universal Motor, A.C. or D.C.—For 115, 220 and Odd Voltages
Up to 60 Cycles



Capacity: in wood, $1\frac{1}{4}$ inches.

For use by carpenter — builders, for plant maintenance and remodeling work. Amply powered for use with abrasive discs for scoring tile, concrete, limestone, etc. Ball bearings throughout.

Free speed, 3400 rpm. Base adjusts vertically from $\frac{3}{4}$ to $1\frac{7}{8}$ inches. Bevel cuts at 45° through lumber $1\frac{3}{16}$ inches thick. Automatic telescoping guard shields saw blade when not cutting. Length overall, $15\frac{1}{2}$ inches.

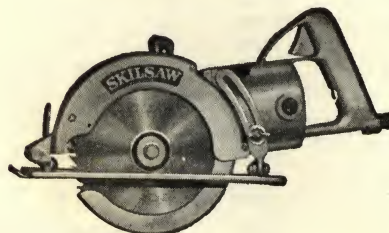
Equipped with combination blade, 3-conductor cord with connector, steel carrying case, wrench and lubricant.

No. 67, Specify Voltage, Net. Wt., $11\frac{1}{2}$ Lb....each \$90.50

No. 77 Portable Electric SKIL Saws

$7\frac{1}{4}$ -Inch Blade

Universal Motor, A.C. and D.C.—For 115 and 220 Volts
Up to 60 Cycles



Capacity: in wood, $2\frac{3}{8}$ inches.

For form work, maintenance, cutting freight car bracing timbers, etc. Fast in cutting metals, concrete, stone, tile and many composition materials.

Ball bearings throughout.

Free speed, 3200 rpm. Base adjusts vertically from $\frac{3}{4}$ to $2\frac{3}{8}$ inches. Bevel cuts at 45° through lumber $1\frac{1}{4}$ inches thick. Automatic telescoping guard. Length overall, $17\frac{1}{4}$ inches.

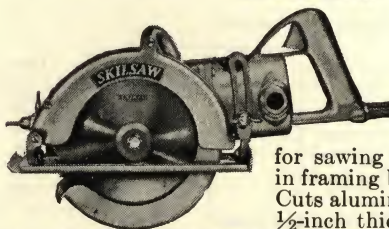
Equipped with combination blade, 3-conductor cord, steel carrying case, wrench and lubricant.

No. 77, Spec. Volt. Net Wt., 15 Lb. Ship. Wt. 31 Lb....ea. \$122.50
Slow speed 850 r.p.m. \$15.00 extra.

No. 825 Portable Electric SKIL Saws

$8\frac{1}{4}$ -Inch Blade— $2\frac{5}{8}$ -Inch Cut in Wood

Universal Motor, A.C. or D.C.—115, 220 and Odd Voltages
Up to 60 Cycles



For sawing in wood, metal, stone, tile and compositions.

Easy to use on 2-inch rough lumber

for sawing studs, rafters, joists in framing buildings of all kinds. Cuts aluminum and copper up to $\frac{1}{2}$ -inch thick; lead sheets up to $\frac{1}{2}$ -inch thick. High grade ball bearing throughout.

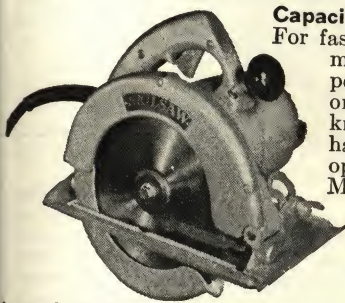
Two pole momentary switch in handle, bakelite enclosed. Free speed, 3000 rpm. Base adjusted vertically for depth of cut from $1\frac{1}{4}$ to $2\frac{5}{8}$ in. Bevel cuts at 45° through lumber $2\frac{1}{8}$ -in. thick. Automatic telescoping guard rotates on ball bearings. Shields saw blade when not cutting. Blower keeps line of cut clear of sawdust. Length overall, 18 in.

Equipped with combination blade, 3-conductor rubber covered cord with two-prong connector, steel permanent carrying case, wrench, lubricant.

Net weight, $17\frac{1}{4}$ pounds; shipping weight $37\frac{1}{2}$ pounds.
No. 825, Specify Voltage.....each \$144.00
Slow speed 850 r.p.m. \$15.00 extra.

No. 800 8 1/4-Inch Portable Electric SKIL Saws

Universal Motors, A.C. and D.C.—For 115, 220, and Odd Voltages



Capacity in wood, 2 5/8 inches. For fast cutting in stone, tile, marble, and wood. Has perfect balance for easy, one-hand operation; small knob mounted ahead of handle permits two-hand operation for difficult cuts. Motor drives through precision ground, helical gearing, maintaining peak power at cutting teeth of blade.

High grade ball bearings throughout. Two pole, momentary switch in handle, bakelite enclosed. Base adjusts vertically for depth of cut from 1/2 inch to 2 5/8 inches. Bevel cuts at 45° through lumber 2 1/2 inches thick. Automatic telescoping guard shields saw blade when not cutting. Blower keeps line of cut clear of sawdust.

Free speed, 6000 rpm.

Length overall, 12 1/2 inches. Blade diameter, 8 1/4 inches.

Standard equipment: combination blade, 10 feet of 3-conductor rubber covered cord with 2-prong connector, steel carrying case, socket wrench, lubricant.

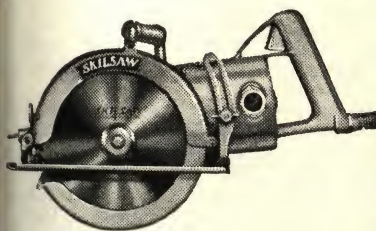
Net weight, 15 3/4 pounds; shipping weight, 38 pounds.

No. 800, Complete, Specify Voltage..... each \$144.00

No. 87 Portable Electric SKIL Saws

9-Inch Blade

Universal Motor, A.C. or D.C.—For 115, 220 and Odd Voltages Up to 60 Cycles



Capacity: in wood, 2 1/8 inches; in aluminum and copper, up to 1/2 inch; lead sheets up to 1 inch. For fast cutting in stone, tile etc.; for form work, for maintenance work in industry, for building stock bins, for cutting freight car brack-

ing timbers. Ball bearings throughout.

Free speed of blade, 3200 rpm. Base adjusts vertically, for depth of cut from 1 to 2 1/8 inches. Bevel cuts at 45° through lumber 2 3/8 inches thick. Automatic telescoping guard shields saw blade when not cutting. Blower keeps line of cut clear of sawdust. Length overall, 19 inches.

Equipped with combination blade, 3-conductor cord, steel carrying case, wrench and lubricant.

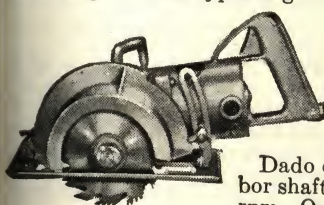
No. 87, Specify Voltage, Net Weight, 24 1/2 Lb...each \$165.00

Slow speed 750 r.p.m. \$15.00 extra.

No. 177 Portable Electric Groover Type SKIL Saws

Universal Motor, A.C. and D.C.—For 115, 220, and Odd Voltages, Up to 60 Cycles

Recommended cutting capacity, 3/4x1 1/2 inches deep or 1x1 inches deep. For all types of grooving applications in main-



tenance, construction, or factory production work. Built to handle toughest jobs up to recommended capacity. Maximum width, 1 inch; depth, 1 3/4 inches.

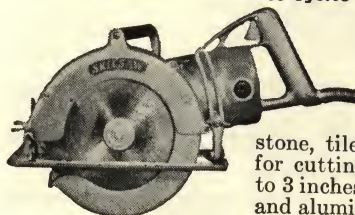
Dado diameter, 6 in. Round arbor shaft, 3/4 inch. Free speed 3200 rpm. Overall length, 18 inches.

Equipped with 3-conductor rubber cord, connector, wrench and lubricant. Dado set is not included.

No. 177, Net Weight, 18 Pounds.....each \$165.00

No. 107 10-Inch Portable Electric SKIL Saws

Universal Motor, A.C. and D.C.—For 115, 220, or 250 Volts, 60 Cycles



Capacity in wood, 3 3/8 inches.

For cutting heavy timbers and for use for difficult cutting and scoring operations in stone, tile, marble, and concrete; for cutting lead-covered cable up to 3 inches in diameter; for copper and aluminum sheets up to 5/8 inch thick. Will rip and cross-cut tim-

bers up to 3 3/8 inches and bevel-cut 2 5/8-inch lumber at 45°.

Net weight, 31 1/4 pounds; shipping weight, approximately 40 pounds.

No. 107, Complete, Specify Voltage.....each \$185.00

SKIL Tool Lubricants

Developed especially for SKIL Tools.

When ordering, specify type, No. and Serial No. of tool.

For SKIL Saws without Leather Oil Seals and for Belt Type SKIL Sanders A and B

No.....	222	221	223
Each.....	\$.70	1.75	3.50
Size Container.....pounds	1/2	2	5

For SKIL Saws with Leather Oil Seals and for Worm Gear Case of Belt Type SKIL Sanders

No.....	249	264	267
Each.....	\$.60	1.00	3.00
Size Can.....	8-Oz.	1-Pt.	1/2-Gal.

For Spindle Type SKIL Grinders, Electrimmers, SKIL Shear and SKIL Nibblers

No.....	252	251	9742
Each.....	\$.70	1.70	3.25
Size Container.....pounds	1/2	2	5

For Floor Edgers

No.....	276	277	278
Each.....	\$.60	1.35	2.75
Size Container.....pounds	1/2	2	5

SKIL Heavy Duty Extension Cords

2-Conductor with Standard Connectors



Made of heavy duty flexible stranded copper, all rubber covered.

Listing below indicates proper size of wire for lengths shown. Distance from outlet to where tool is used, governs size.

Use heavier gage wire as distance from outlet increases, to prevent harmful drop in voltage when tool is under load.

Distance from Outlet Box Feet	SIZE WIRE, GAGE FOR SKIL Saw Nos.					
	67	77	825	87	127	77G
50	14	14	14	14	12	14
100	14	14	14	14	10	14
150	12	12	12	12	8	12
200	12	10	10	10	6	10
300	10	8	8	8	4	8
No.....	203	206	201	207	204	
Each.....	\$6.00	26.00	19.00	28.50	47.50	
Length.....feet	50	100	50	100	100	
Size.....gage	14	14	12	12	10	

To equip with male and female twist lock connectors, order by No. and specify with twist lock connectors; add \$2.00.

Blades for SKIL Saws

Made of crucible steel. The arbor on all SKIL Saw models is the same size, making blades interchangeable.

Combination Blades

Designed for all-around work; suitable for ripping or cross-cutting.

No.	376	377	378	388	379	380	382
Diameter.....in.	6	7 $\frac{1}{4}$	8	8 $\frac{1}{4}$	9	10	12
Each.....	\$2.25	2.50	2.65	2.65	3.15	3.65	4.85

Rip Blades

A fast cutting blade for rough work.

If rip cuts are to be made with Models 167, 77, 825, or 87, the combination blade above is recommended.

No.	9764	330
Diameter.....inches	10	12
Each.....	\$3.65	4.85

Crosscut Blades

Recommended for all types of crosscut work.

No.	9752	356	293	350	357	9763	334
Diameter.....in.	6	7 $\frac{1}{4}$	8	8 $\frac{1}{4}$	9	10	12
Each.....	\$2.25	2.50	2.65	2.65	3.15	3.65	4.85

Grooving Blades

A 5 $\frac{1}{2}$ -inch blade, for plowing with or against the grain. Ask for complete details.

No.	300	9748	9745	9746	9747	9759	9751
Width.....inches	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{13}{16}$
Each.....	\$7.75	7.25	7.60	8.20	8.80	9.95	9.95

Fine Tooth Blades

The lightest gage SKIL Saw blade available, fitted with very small teeth.

Used for cutting Celotex or similar soft wallboard.

No.	280	366	9744	361
Diameter.....inches	6	7 $\frac{1}{4}$	8	9
Each.....	\$2.25	2.50	2.65	3.15

Miter Blades

For extra smooth cutting. For interior finish. Not set but hollow-ground for clearance.

No.	314	362	9757	363	9758
Diameter.....inches	6	7 $\frac{1}{4}$	8	9	10
Each.....	\$3.25	3.65	4.45	6.20	7.95

Friction Blades

For cutting, by friction or burning, light gage flat or corrugated sheets of iron. Hollow-ground for clearance. To be used

only with Model 77 or larger SKIL Saws.

No.	9768	9769
Diameter.....inches	6	8
Each.....	\$4.85	6.05

Flooring Blades

Excellent for repairing old floors; also can be used for opening boxes and crates where nails may be struck.

No.	9775	358	348	359	349
Diameter.....inches	6	7 $\frac{1}{4}$	8	9	10
Each.....	\$2.25	2.50	2.65	3.15	3.65

Special High-Speed Hollow-Ground Blades

For cutting non-ferrous metals, such as sheet and tube copper, brass, and aluminum.

No.	*9813	†9814
Diameter.....inches	7	7
Each.....	\$6.05	6.05

*For aluminum. †For copper and brass.

SKIL Diamond-Grit Metal Blades



Embedded diamond grit long-lasting edge. Cuts cleanly, smoothly, without dust. For masonry products in-

cluding brick, concrete, glass, tile, marble, etc.

Outlasts abrasive discs. Loses only $\frac{1}{8}$ inch of radius during entire life. Eliminates need of frequent adjustment of saw base when doing scoring work. Shatterproof, no danger of flying pieces of abrasive. No. 5750 SKIL Water Feed. Attachment supplies water to point of cut. Blade cannot be used dry. Thickness: .040 inch, light duty; .050 inch, medium; .064 inch, heavy duty.

No.	Each	Size Inches	Fits SKIL- No.	No.	Each	Size Inches	Fits SKIL- No.
*341	\$20.75	7x.050	77	371	\$10.00	9x.050	87
9773	22.00	7x.064	77	*372	22.80	9x.064	87
9774	9.00	8x.040	800,825	373	9.00	10x.040	107,127
*344	22.00	8x.050	800,825	374	11.00	10x.050	107,127
370	10.00	9x.040	87	*375	30.50	10x.064	107,127

Abrasive Discs for SKIL Saws

For Concrete

Used for cement, concrete, mortar, building brick, hay-dite block, precast stone, glazed brick, terra cotta, ar-ke-tex tile, firebrick, roofing and sewer tiles, limestone, terrazzo.

No.	Each	Size, In.	No.	Each	Size, In.
7939	\$1.60	6 x $\frac{1}{8}$	7944	\$2.25	8x $\frac{1}{8}$
7940	1.95	6 x $\frac{3}{16}$	7945	2.80	8x $\frac{1}{4}$
7941	2.30	6 x $\frac{1}{2}$	7946	2.65	9x $\frac{1}{8}$
7942	2.55	6 x $\frac{3}{8}$	7947	3.15	10x $\frac{1}{8}$
7943	1.95	7 $\frac{1}{2}$ x $\frac{1}{8}$	7948	4.25	12x $\frac{1}{8}$

For Tile

Used for harder tiles and other manufactured ceramic, clay and stone products generally having a dense non-porous surface structure, such as glazed and ceramic tiles.

No.	7949	7950	7951	7952	7953	7954
Each.....	\$1.60	1.95	2.25	2.65	3.15	4.25
Size.....inches	6x $\frac{1}{8}$	7 $\frac{1}{4}$ x $\frac{1}{8}$	8x $\frac{1}{8}$	9x $\frac{1}{8}$	10x $\frac{1}{8}$	12x $\frac{1}{8}$

For Marble

For all marbles, slate, Wisconsin lannon, travatex. Group covers highly compressed natural and artificial substances sufficiently close in texture to permit polishing; materials which cleave in flat sheets; hard rubber base materials.

No.	7955	7956	7957	7958	7959	7960	7961	7962
Each.....	\$1.60	1.95	2.25	1.95	2.25	2.65	3.15	4.20
Size.....inches	6x $\frac{1}{8}$	6x $\frac{3}{16}$	6x $\frac{1}{2}$	7 $\frac{1}{4}$ x $\frac{1}{8}$	8x $\frac{1}{8}$	9x $\frac{1}{8}$	10x $\frac{1}{8}$	12x $\frac{1}{8}$

For Granite

Granite and crab orchard stone can be cut only by successive scoring. Only marble cutting discs should be used. Materials such as refractory brick and non-slip tiles of electric furnace abrasives cannot be cut with abrasive discs.

For Asbestos Cement Sheets

Used for hard compressed asbestos, also plastics such as bakelite and other close textured manufactured rigid materials of fibrous rather than granular structure.

No.	7963	7964	7965	7966	7967	7968
Each.....	\$1.60	1.95	2.25	2.65	3.10	4.25
Size.....inches	6x $\frac{1}{8}$	7 $\frac{1}{4}$ x $\frac{1}{8}$	8x $\frac{1}{8}$	9x $\frac{1}{8}$	10x $\frac{1}{8}$	12x $\frac{1}{8}$

For Cast Iron

For ferrous metals of low tensile strength, as cast iron; also non-ferrous metals as bronze and monel metal.

No.	7969	7970	7971	7972	7973	7974
Each.....	\$1.60	1.95	2.25	2.60	3.10	4.25
Size.....inches	6x $\frac{1}{8}$	7 $\frac{1}{4}$ x $\frac{1}{8}$	8x $\frac{1}{8}$	9x $\frac{1}{8}$	10x $\frac{1}{8}$	12x $\frac{1}{8}$

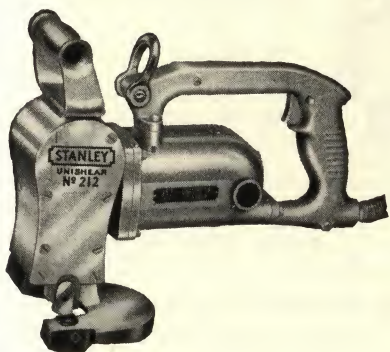
For Alloy Steels

Used for high tensile strength metals, generally ferrous, including alloy steels, soft iron sheets, and enameled sheets.

No.	7975	7976	7977	7978	7979	7980	7981
Each.....	\$1.60	1.95	2.25	2.65	3.15	4.25	2.55
Size.....in.	6x $\frac{1}{8}$	7 $\frac{1}{4}$ x $\frac{1}{8}$	8x $\frac{1}{8}$	9x $\frac{1}{8}$	10x $\frac{1}{8}$	12x $\frac{1}{8}$	7x $\frac{3}{16}$

No. U212 Stanley Portable Electric Unishears

Universal Motor, A.C. and D.C.—For 115 to 250 Volts, 60 Cy. or less



Capacity: 12-gage (.105-inch) hot rolled steel. Trims 10-gage steel.

Speed, 12 feet per minute.

Minimum radius, 2½ inches.

Overall length, 13¾ inches.

Hardened alloy steel worm, bronze worm gear.

Yoke of special heat-treated alloy steel.

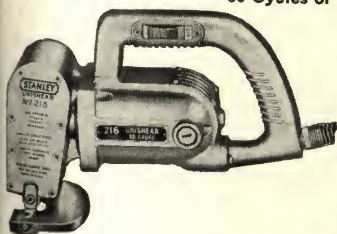
Full ball and roller bearing construction. Blades easily removed for sharpening.

Weight: net, 20¾ pounds; shipping weight, 25 pounds.

No. U212, Specify Voltage.....each \$145.00

No. U216 Stanley Portable Electric Unishears

Universal Motor, A.C. and D.C.—For 115 to 250 Volts,
60 Cycles or less



Capacity: 16-gage (.062-inch) hot rolled steel. Trims 14-gage steel. Speed, 15 to 20 feet per minute. Minimum radius: ½ inch left-hand; 1¼ inches right-hand. Overall length, 11 inches.

Hardened alloy steel worm; bronze worm gear. Slide-operated switch.

Minimum number of moving parts. Yoke of special heat-treated alloy steel. Full ball and roller bearing construction. Blades easily removed.

Weight: net, 9½ pounds; shipping weight, 14 pounds.

No. U216, Specify Voltage.....each \$90.00

Unishear Replacement Blades and Screws

Blades and screws, 1 pair envelope; 12 pairs in carton.

For	Blades	Per Pair
Mighty Midget or No. 16A.	No. S-7797.....	\$2.60
No. U218.....	Upper Blade No. S-8204	2.75
	Lower Blade No. S-8205	
No. U214A or U216.....	Upper Blade No. S-8468	3.50
	Lower Blade No. S-8469	
No. 144A or A-14.....	Upper Blade No. S-7799	6.00
	Lower Blade No. S-7798	
No. U212.....	Upper Blade No. S-8500	5.50
	Lower Blade No. S-8499	

Without Screws

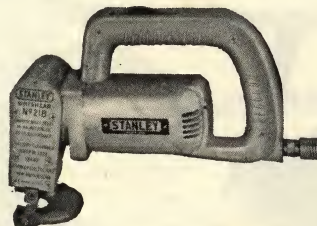
When screws are wanted, specify on order. Not in cartons.

No. A-10.....	No. S-7818.....	\$10.00
	Screws No. S-7073.....	*.30
0 Models.....	No. S-7800.....	6.20
	†No. S-7800C.....	*3.10
	Screws No. S-6904.....	*.20
No. U206 or U208.....	Upper Blade No. S-8466B	*6.00
	Lower Blade No. S-7962	*4.50
	Screws No. S-7964.....	*.40

*Each. †Specify short radius blade.

No. U218 Stanley Electric Unishears

Universal Motor, A.C. and D.C.—For 115, 125, 150, 220, 230,
or 250 Volts—60 Cycles or Less



Capacity: 18-gage (0.050-inch) hot rolled mild steel; 20-gage (0.037-inch) cold rolled mild steel; 22-gage (0.031-inch) stainless steel; copper, brass, lead, and other materials in proportion to hardness. Trims 16 gage steel.

Cuts 18-gage hot rolled steel at a speed up to 15 feet per minute.

Blade action feeds in the work so that little effort is required by operator to cut straight lines, curves, angles, and notches with hairline accuracy. For inside cuts, simply cut a two-inch hole in the material and slip yoke through hole.

Multi-grip handle permits operator to grip at position most convenient for his use.

Features: High speed alloy steel blades, easily removable for resharpening. Sturdy, lightweight, aluminum alloy housing. Hardened, ground alloy steel worm, bronze worm gear. Cuts to a minimum radius of ½ inch for left-hand cuts, ¾ inch for right-hand cuts. Full ball and roller-bearing construction. Yoke special alloy steel forging, heat treated. Automatic lubrication of plunger from gear housing. Convenient slide operated switch. Minimum number of moving parts.

Length, 9½ inches.

Shipping weight, 5½ pounds.

No. U218, all voltageseach \$70.00

No. 14 Buffalo Slitting Shears Bench Type



A strong, efficient shear that occupies very little bench space. Handy for shops where considerable strand or solid wire is cut.

Frame is a high grade drop forging with a powerfully compounded leverage.

Takes 1¾-inch cut per stroke when cutting 16-gage sheets; shears flats in a single stroke.

No.....	14
Each.....	\$32.00
Shears Wire Gage No.....	0
Slits Sheets Gage No.....	16
Cuts Flats.....inches	¾x½
Length.....inches	6
Height without Handle.....inches	5¼
Shipping Weight.....pounds	6

No. 19A Buffalo Bench Type Slitting Shears



A useful bench tool for any shop where quantities of sheets, flats and rounds are cut. Has cast steel frame and plunger guide, and a powerfully compounded leverage by means of steel lever and rack and pinion. A stripper outside prevents binding of metal and a slotted base permits shear to be bolted to table.

Shears and slits No. 12 gage sheets; cuts rounds ¾ inch and flats 1x½ inch. Also cuts No. 0000 wire and No. 14 BX cable.

Length of knives, 4¾ inches.

Shipping weight, 40 pounds.

No. 19A.....each \$59.00

Beverly Throatless Shears



No. B-1

No. B-2

Metal may be turned to any position while cutting, allowing any shape to be cut on lighter metals without distortion.

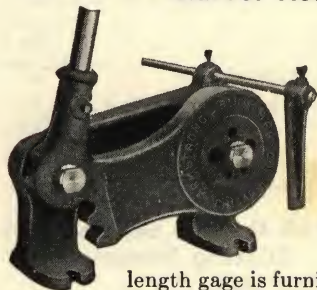
Blades are made from high grade tool steel properly hardened for cutting mild steel and of high chrome, high carbon steel for cutting stainless steel. Adjustable for wear and interchangeable.

No. B-3 has a ball bearing metal-holding device which guards against distortion, scratching or marring metal.

Beverly Junior is of same design, workmanship and quality as the larger models. Successfully fills shearing range between hand snips and larger bench type shears.

No.	B-1	B-2	B-3	Jr.
Shear Comp.	\$50.75	\$80.00	\$135.00	\$28.75
Blades.....per pair	10.00	16.50	24.25	5.50
Sharpening.....per pair	1.50	2.25	3.00	1.00
Gage Capacity:				
Mild Steel.....	14	10	$\frac{3}{16}$ In.	18
Stainless Steel.....	18	14	10	24
Weight.....pounds	18	35	58	6
Beverly Shear Floor Stands.....each	\$19.50			

Marvel Rod Cutters



This simple, hand powered tool conveniently and rapidly cuts off round bars, rods or wire with a single stroke of the lever.

Blades are high grade, heat-treated tool steel and are exceptionally long-lived but can easily be replaced when worn out. An adjustable

length gage is furnished for convenience in cutting duplicate pieces. No. 7, with 18-inch

heavy iron legs; shipping weight, 180 lb., each \$94.00.

No.	Each	Cuts Rods, Inches	Wt. Lb.
5	\$26.25	$\frac{3}{8}$, $\frac{5}{16}$, $\frac{1}{4}$, $\frac{3}{16}$, $\frac{1}{8}$	15
6	43.00	$\frac{5}{8}$, $\frac{3}{16}$, $\frac{1}{2}$, $\frac{1}{16}$, $\frac{3}{8}$	45
7	71.40	$\frac{7}{8}$, $\frac{3}{4}$, $\frac{5}{8}$, $\frac{1}{2}$, $\frac{3}{8}$	110

KEYS

We make duplicate keys, masterkeys, and keyed-alike systems of all makes.

AT YOUR SERVICE!

Greenlee Knockout Punches

For cutting holes in metal having a thickness up to $\frac{1}{8}$ inch or 10 gage. Ordinary wrench will drive all units.

No. 735 consists of 4 punches for cutting $\frac{7}{8}$, $1\frac{1}{2}$, $1\frac{11}{32}$ and $1\frac{11}{16}$ -inch holes for $\frac{1}{2}$, $\frac{3}{4}$, 1, and $1\frac{1}{4}$ -inch conduit.

No. 737 consists of 2 punches for cutting $1\frac{15}{16}$ and $2\frac{3}{8}$ -inch holes to take $1\frac{1}{2}$ and 2-inch conduit.

No. 738 cuts a $2\frac{7}{8}$ -inch hole for $2\frac{1}{2}$ -inch conduit. Drive is by a double diameter screw and nut.

No. 739 cuts a $3\frac{1}{2}$ -inch hole for 3-inch conduit. Drive is by a double diameter

screw and nut.

No. 741 cuts a 4-inch hole for $3\frac{1}{2}$ -inch conduit.

No. 742 cuts a $4\frac{1}{2}$ -inch hole for 4-inch conduit.

No.	735	737	738	739	741	742
Each	\$10.00	10.00	14.00	19.00	39.00	48.00
Weight.....lb.	$2\frac{3}{4}$	$4\frac{1}{4}$	$5\frac{3}{4}$	$7\frac{1}{4}$	$10\frac{1}{2}$	$12\frac{1}{2}$

Parts for Greenlee Knockout Punches

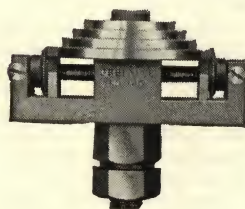
For No. 735 Knockout Punch Sets

No.	Description	Each
AV121	$\frac{7}{8}$ -Inch Punch for $\frac{1}{2}$ -Inch Conduit.....	\$1.25
AV122	$\frac{7}{8}$ -Inch Die for $\frac{1}{2}$ -Inch Conduit.....	.65
AV123	$1\frac{1}{2}$ -Inch Punch for $\frac{3}{4}$ -Inch Conduit.....	1.45
AV124	$1\frac{1}{2}$ -Inch Die for $\frac{3}{4}$ -Inch Conduit.....	.80
AV125	$1\frac{11}{32}$ -Inch Punch for 1-Inch Conduit.....	1.65
AV126	$1\frac{11}{32}$ -Inch Die for 1-Inch Conduit.....	.95
AV127	$1\frac{11}{16}$ -Inch Punch for $1\frac{1}{4}$ -Inch Conduit.....	1.90
AV128	$1\frac{11}{16}$ -Inch Die for $1\frac{1}{4}$ -Inch Conduit.....	1.05
AV322	$\frac{3}{8}$ x $1\frac{1}{2}$ -Inch Cap Screw.....	.25
AV249	$\frac{3}{4}$ x $2\frac{1}{4}$ -Inch Cap Screw.....	.35

For No. 737 Knockout Punch Sets

AV439	$1\frac{15}{16}$ -Inch Punch for $1\frac{1}{2}$ -Inch Conduit.....	\$2.30
AV440	$1\frac{15}{16}$ -Inch Die for $1\frac{1}{2}$ -Inch Conduit.....	2.00
AV441	$2\frac{3}{8}$ -Inch Punch for 2-Inch Conduit.....	3.20
AV442	$2\frac{3}{8}$ -Inch Die for 2-Inch Conduit.....	2.50
AV304	$\frac{3}{4}$ x3-Inch Cap Screw.....	.50

No. 740 Greenlee Knockout Cutters



Will handle the enlargement of knockouts to accommodate $1\frac{1}{2}$, 2, $2\frac{1}{2}$, and 3-inch conduit. It will cut material up to $\frac{1}{8}$ -inch or 10-gage thickness, and the operation can be performed in about $1\frac{1}{2}$ minutes.

Tool is hand driven; any ordinary wrench can be used.

The cutting is done by the drive action of two wheel cutters, mounted on a horizontal shaft in the body.

The center shaft of the tool is $\frac{3}{4}$ -inch diameter for passing through standard knockouts.

Packed in leather case.

Weight, $4\frac{1}{2}$ pounds.

No. 740.....each \$15.00

No. 1 Whitney Lever Punches



Main parts of this heavy duty punch are drop forged with insertable pipe handles. Weight well distributed to balance tool.

Capacity, $\frac{3}{8}$ -inch hole through $\frac{1}{4}$ -inch iron. Length, 34 inches. Depth of throat, $1\frac{1}{8}$ inches. Stock size, $\frac{1}{8}$ to $\frac{1}{16}$ inch by 64ths.

Complete tool includes punch and die of specified size and die adjusting key.

Unless otherwise specified, $\frac{5}{16}$ -inch punch and die with tool is supplied.

No. 1, Tool Complete, Weight, 23 Pounds.....each	\$27.03
Extra Punch.....each	.58
Extra Die.....each	.58

No. 2 Whitney Punches

Punches and dies from $\frac{3}{32}$ to $\frac{1}{2}$ inch, by $\frac{1}{64}$ ths.

Used by boiler makers, furnace manufacturers, cornice, tank, and stack builders, manufacturing plants, and in repair shops.

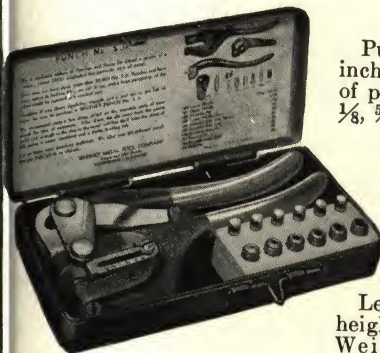


Parts of tool drop-forged throughout, with wearing parts heat-treated. One punch and one die furnished.

Length.....inches	23
No. 2, Complete.....each	\$20.05
Extra Punches.....each	.58
Extra Dies.....each	.58
Capacity Hole.....inches	$\frac{3}{16}$
Thickness Iron.....inches	$\frac{1}{4}$
Weight.....pounds	14

No. 5 Jr. Whitney Punches

Capacity, $\frac{1}{4}$ Inch Through 16-Gage Metal



Punches in center of 4 inches. With seven sets of punches and dies, $\frac{3}{32}$, $\frac{1}{8}$, $\frac{5}{32}$, $\frac{3}{16}$, $\frac{1}{2}$, $\frac{1}{4}$, and $\frac{3}{32}$ inches or any standard size specified. Six No. 5 punches and dies in container, one in tool. Any size punch and die from $\frac{1}{16}$ to $\frac{3}{32}$ by $\frac{1}{64}$ inch supplied. Length, $8\frac{1}{4}$ inches; height of gap, $\frac{1}{4}$ inch. Weight of punch, $4\frac{1}{4}$ pounds each.

No. 5, in Paper Carton.....each	\$8.25
No. 5, in Metal Box, Parts Illustrated Inside Cover.....each	8.80
Extra Punches or Dies.....each	30

No. 20 Whitney Ball Bearing Punches

Capacity, $\frac{1}{2}$ Inch Through $\frac{1}{2}$ Inch Mild Steel



Made of alloy steel; heat treated throughout. Will also drive rivets.

Depth of throat, $2\frac{1}{4}$ inches; height of throat, $1\frac{1}{8}$ inches.

Any size standard punch and die can be furnished from $\frac{1}{8}$ to $\frac{1}{16}$ inch by $\frac{1}{32}$ nd.

Furnished with one punch and die of specified size. Weight, 18 pounds.

No. 20, Complete.....each	\$44.00
Standard Punch or Die (Round).....each	4.40
Special $\frac{3}{4}$ or $\frac{1}{16}$ -Inch Punch.....each	.65
Special $\frac{3}{4}$ or $\frac{1}{16}$ -Inch Die.....each	1.30
Special Split Coupler for $\frac{3}{4}$ or $\frac{1}{16}$ -Inch Punch.....each	1.00
Riveting Punches and Dies, Available in Sizes $\frac{1}{8}$ to $\frac{3}{8}$ Inch by 32nds.....per set	2.20
No. 19, Ratchet Handle.....each	16.50

Whitney Roller Bearing Punches



Will punch and strip inside 90°.

Punches and dies can be changed quickly.

Has no lever to become disengaged by moving too far in either direction.

Standard punch and die sizes: $\frac{3}{32}$, $\frac{7}{64}$, $\frac{1}{8}$, $\frac{9}{64}$, $\frac{5}{32}$, $\frac{11}{64}$, $\frac{3}{16}$, $\frac{13}{64}$, $\frac{7}{32}$, $\frac{15}{64}$, $\frac{1}{4}$, $\frac{17}{64}$, $\frac{9}{32}$, $\frac{19}{64}$, $\frac{5}{16}$, $\frac{21}{64}$, $\frac{11}{32}$, $\frac{23}{64}$, $\frac{3}{8}$, $\frac{25}{64}$, $\frac{13}{32}$, $\frac{27}{64}$, $\frac{7}{16}$, $\frac{29}{64}$, $\frac{15}{32}$, $\frac{31}{64}$, and $\frac{1}{2}$ inch.

Largest punch and die for Nos. 7 and $7\frac{1}{2}$ punches is $\frac{7}{16}$ -inch.

Largest punch and die for No. 8 punch is $\frac{1}{2}$ -inch.

No. 7 punch takes No. 7 punches and No. 7 dies.

No. $7\frac{1}{2}$ punch takes No. 8 punches and No. 7 dies.

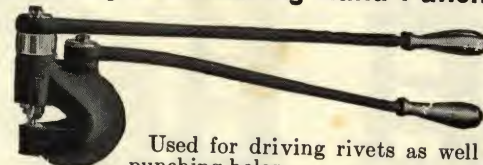
No. 8 punch takes No. 8 punches and No. 8 dies.

Three punches and dies are furnished with each tool from the list of standard sizes. If size is not specified, the following will be furnished: $\frac{1}{32}$, $\frac{1}{16}$, and $\frac{1}{8}$ inch.

Irregular shaped punches and dies are also available.

No.....	7	$7\frac{1}{2}$	8 Imperial
Each.....	\$16.00	\$19.00	\$22.00
Extra Punches.....each	.40	.60	.60
Extra Dies.....each	.40	.40	.65
Capacity, Mild Steel.....in.	$\frac{1}{4}$ - $\frac{1}{8}$	$\frac{1}{4}$ - $\frac{3}{16}$	$\frac{1}{4}$ - $\frac{1}{4}$
Depth of Throat.....inches	$\frac{1}{8}$	2	$\frac{2}{1}$
Height of Gap.....inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{8}$
Length Overall.....inches	18 $\frac{1}{2}$	22	25 $\frac{1}{2}$
Weight.....pounds	7 $\frac{1}{2}$	10 $\frac{1}{2}$	16

No. 10 Whitney Ball-Bearing Hand Punches



Used for driving rivets as well as punching holes.

Capacity of tool, $\frac{3}{8}$ -inch hole through $\frac{1}{4}$ -inch steel. Equipped with one punch and die of specified size. Base for bench purposes can also be furnished. Frame made of drop-forged steel; other parts are of high grade steel.

Depth of throat, $1\frac{1}{8}$ inches. Height of throat, $\frac{1}{8}$ inch. Length overall, $19\frac{1}{2}$ inches. Weight, $9\frac{1}{2}$ pounds.

Stock sizes of punches and dies, $\frac{3}{32}$ in. to $\frac{1}{2}$ in. by $\frac{1}{32}$ in. Sizes of riveting punches and dies, $\frac{1}{8}$ to $\frac{1}{4}$ in. by 32nds.

No. 10.....each	\$22.00
Extra Punches or Dies.....each	.40
Riveting Punches and Dies.....per set	1.90

No. 24 Whitney Ball-Bearing Punches

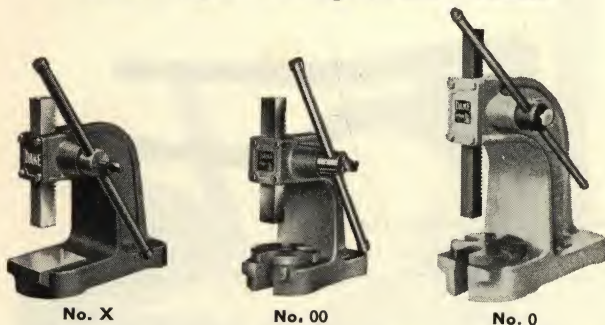
Capacity, $\frac{1}{2}$ -Inch Hole in $\frac{3}{8}$ -Inch Iron



Punch body is made of special steel casting. Will punch in center of 7 inches. Standard punches and dies in sizes $\frac{1}{8}$ to $\frac{1}{16}$ inch by $\frac{1}{32}$ inch. Furnished with one standard punch and die.

No. 24.....each	\$55.50
Standard Punch or Die.....each	16.50
Spec. $\frac{3}{4}$ and $\frac{1}{16}$ -Inch Punch.....each	1.30
Spec. $\frac{3}{4}$ and $\frac{1}{16}$ -Inch Die.....ea.	1.00
Special Split Coupler for $\frac{3}{4}$ and $\frac{1}{16}$ -Inch Punch.....each	1.65
Riveting Punches and Dies $\frac{1}{8}$ to $\frac{3}{8}$ Inch by 32nds.....per set	2.20
Depth of Throat.....inches	3 $\frac{1}{2}$
Height of Throat.....inches	4
Weight.....pounds	50

Dake Single Leverage Arbor Presses



No. X

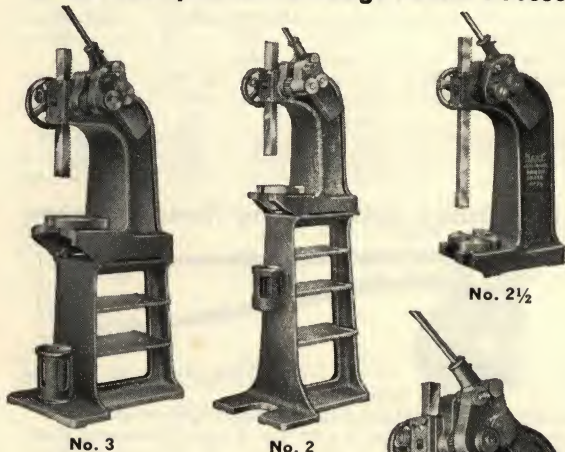
No. 00

No. 0

Designed for light production and assembly work. Most models have a large opening in base for arbor work, and slotted tableplate. Nos. X and Y have solid square table. Pedestal available for all models except Nos. 00 and X.

No.	X	Y	00	0	1
Less Pedestal	each				
Pedestal Only	each				
Approx. Capacity.....	tons				
Max. Work Diam.....	inches				
Max. Work, Arbor.....	inches				
Capacity Over Table.....	in.				
Over Tableplate.....	in.				
Leverage Ratio					

Dake Compound Leverage Arbor Presses



No. 3

No. 2

No. 2 1/2

For shops having heavier classes of press work; high leverages.

By inserting or extracting a sliding pin, press quickly changed from simple to compound leverage or vice versa.

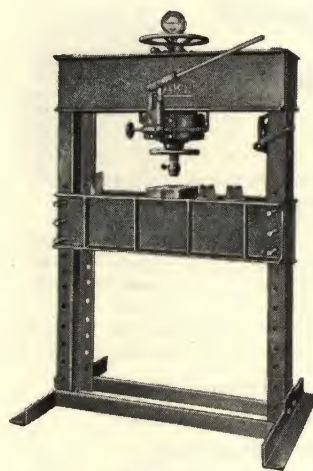
Nos. 2, 2B, 2 1/2, 3—bench type, available with floor pedestals; fixed machined table surfaces for work support.

Nos. 4, 5, 6—heavy duty floor type; No. 4 has table with rack and pinion adjustment; Nos. 5 and 6 have swinging table for various heights.

No.	Less Pedestal Each	Pedestal Only Each	Approx. Cap. Tons	MAX. WORK —INCHES— Diam.	Arbor	Over Table	Cap., In. Over Table-Plate	Leverage Ratio
2	\$202.00	\$73.50	6	15 1/2	3	15	13 3/4	66-1
2B	213.50	73.50	6	15 1/2	5 1/2	15	14	66-1
2 1/2	210.00	73.50	6	15 1/2	3	21 1/2	20 1/4	66-1
3	335.00	120.00	12	20	5 1/4	19	17 1/4	112-1
4	580.00	.....	12	20	5 1/4	26	24 1/2	112-1
5	635.00	.....	15	24 1/2	5 1/2	46	30, 16	150-1
6	935.00	.....	25	37	8	47	31 1/2, 16 1/2	220-1

No. 5

Dake Hand-Hydraulic Presses



No. 75H

Exerts great pressure with minimum physical effort—for bending, straightening, broaching and assembling.

Screw type ram quickly advanced to work; large pump speeds power travel. Self-contained workhead; table easily adjusted for height; 50, 75 and 125-ton models have roller-mounted workheads which can be centered over work, and locked in position with handwheel; 25-ton workhead is stationary.

Standard equipment includes workhead, pressure gauge, table hoist, table plates, V-blocks, round and V-ram noses.

No.	25H	50H	75H	125H
Each.....	\$315.00	430.00	545.00	1204.00
Capacity.....	tons	25	50	75
Table Travel.....	in.	35	35	32
Screw Travel.....	in.	5	7	7
Maximum Work:				
Width.....	inches	33 1/2	32 3/4	44
Height.....	inches	39	40 1/2	36 1/2
Arbor.....	inches	5 3/16	7 1/4	8 1/4
Ram Travel.....	inches	5	4	4 1/2
Ht. Overall.....	inches	76	85	87
Floor Space.....	inches	30x42 1/2	36x43 1/2	36x55
Ship. Weight.....	pounds	450	775	1325

Dake Utility Presses



No. UT10A

Handles wide range of press work including bearings, bushings, shafts, and pins. Ideal for automotive, electrical, implement, washing machine, and general repair shops.

Three sizes, all 10-ton capacity.

Maximum work diameter, 18 inches. Capacity, table to ram, 11 1/2 inches. Maximum arbor, 3 inches. Screw travel, 5 inches. Bench space, 8x21 inches.

Furnished complete with two table blocks, 5/8x1 1/2x6 inches.

No.	Each	Description	Cap. Table to Ram In.
UT10A	\$42.00	Utility Press with Table Blocks....	11 1/2
UT10B	47 00	Utility Press with Table Blocks....	18 1/2
UT10C	52.00	Utility Press with Table Blocks....	27 1/2
P10-13	2.50	Table Block for General Press Work, Gluing, Etc., Size 3/4x4x6 In. ....	.....
P10-14	*3.25	Two Table Blocks for Straightening, Size 3/4x1 3/4x7 Inches.....	.....

*Per pair.

MATERIAL NOT LISTED

We can furnish many items not listed in this catalog.

Please send us all your inquiries.

Armstrong-Bray Steelgrip Pullers

Electrical Bearing Pullers



No. 13

Will pull generator bearings and small gears. Has long hooks on jaws to reach bearing race.

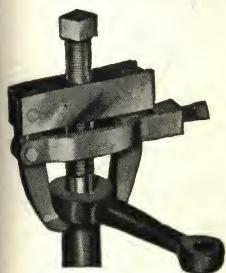
No.	13	13A	13A Spec.
Each.....	\$8.72	10.44	12.49
Will take Gear or Bearing.....inches	4	6	6
Reach from End of Shaft.....inches	3	5	8
Approx. Wt...pounds	1.5	1.9	2.3

No. TL-18 Fan Propeller Pullers

For removing propeller fans, special gears, etc. Has long hooks on jaws. Has reach of 3 1/4 inches.

Approximate weight .9 pound.
No. TL-18.....each \$15.91

No. P-48 Pitman Arm or Steering Arm Pullers



Used to remove Pitman arms, gears, pulleys and bearings. Puller arms can be tightened on part to be pulled and cannot slip.

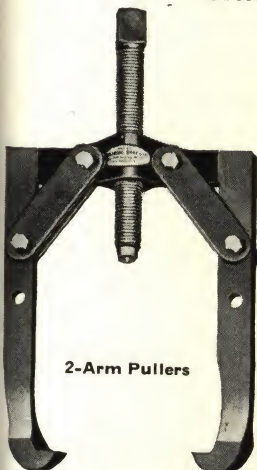
Reach 27 1/8 inches.

Jaws open to 4 inches.

Approximate weight, 3.0 pounds.

No. P-48.....each \$13.68

Armstrong-Bray Steelgrip Gear and Wheel Pullers



2-Arm Pullers

Will pull anything up to the rated capacity and within their arms' reach. Designed so that hooks cannot slip off.

Arms and yokes are forged steel.

The 3-arm is a very rigid puller for use on gears, wheels, pinions, generators etc., when a 2-arm puller is not practical. Arms are interchangeable on the 2 and 3-arm series.

*Reversible arm type.

2-Arm Pullers				3-Arm Pullers				No. Hole			
No.	Each	Wt. Lb.		No.	Each	Wt. Lb.	Dia. In.	Reh. In.	Dia. In.	Lgth Ad. Ser. In.	Just. mts.
1001	\$12.83	1.75		1031	\$18.82	2.9	6	3 3/4	1 1/2	6	1
*1001R	12.83	1.75		*1031R	18.82	2.9	6	3 3/4	1 1/2	6	1
1001A	15.31	2.4		1031A	23.52	3.4	6	5 1/2	1 1/2	7	2
1002	25.22	4.7		1032	33.35	6.4	8	5 1/2	5/8	8	1
*1002R	25.22	4.7		*1032R	33.35	6.4	8	5 1/2	5/8	8	1
1002A	28.48	5.5		1032A	38.48	7.9	8	8 1/2	5/8	9	3
1003	39.08	10.4		1033	53.45	14.3	12	9	3/4	12	2
1003A	45.33	12.75		1033A	60.03	8.3	12	15 1/2	3/4	12	3
1003 1/2	57.72	25.0		1033 1/2	78.50	33.0	14	14	1	12	2
1003 1/2 A	69.77	27.0		1033 1/2 A	95.79	36.6	14	18	1	12	3
1004	79.53	42.3		1034	102.20	57.3	18	15 1/2	1 1/4	16	2
1004A	89.37	48.0		1034A	122.21	68.6	18	22	1 1/4	16	3

No. R-23 Armstrong-Bray Steelgrip 3-Arm Refrigeration Pullers



Made of special steel heat-treated for strength and so constructed that the harder the pull the tighter the arms hug the work. The 1/2x6-inch forcing screw has fine threads for a steady even pull.

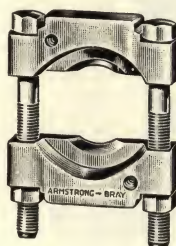
Will take diameters up to 6 inches and will reach 5 inches in from the end of the shaft. One-piece forged arm has extra long hook on end for a firmer grip.

Puller arms cross-bored to permit them to be turned sideways so that they will pull spokes of flywheels.

Approximate weight, 3.3 pounds.

No. R-23.....each \$18.82

Armstrong-Bray Bearing Separators



For quick and easy splitting and gripping double bearings, close fitting gears, and small diameter pinions and sleeves.

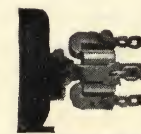
Used with standard 2-arm or No. 10, 110 or 210-pullers.

No. 950, up to 2 1/4 Inches O.D.....	each	\$8.47
No. 951, up to 4 1/4 Inches O.D.....	each	21.63
No. 952, up to 5 1/4 Inches O.D.....	each	27.28
No. 952-A, up to 9 Inches O.D.....	each	29.07

Chaingrip Universal Gear and Wheel Pullers



With Standard Chain Hooks



With Close-Grip Chain Hooks

Chaingrip wheel pullers are adjustable. Can pull wheels either close to, or at considerable distance from, the end of the shaft. Free from disadvantages of rigid or semi-rigid arm pullers, the Chaingrip will take its hold in the most awkward places, in close quarters, for it requires no extra operating space, will even pull over or through other pulleys or wheels—wherever its chains can lead.

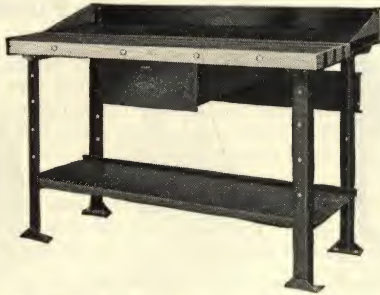
The No. 1 puller is widely used in refrigeration servicing.

Equipped with regular chain hooks on one end (for spoked pulleys, etc.) and special close grip hooks on the other (for solid gears, sheaves, motor pulleys, pinions, bearings, etc.)

The yoke which supports the heavy forcing screw has three chain slots that permit instant adjustment of chain length.

No.	1	2	3	4
Each.....	\$13.69	27.29	54.56	92.13
Thickness Chain.....inches	3/16	1/4	3/8	1/2
Length of Chain.....feet	1 1/2	3	4	5
Pulling Power.....tons	1	3	7	12
Weight.....pounds	7.4	15	38	90

Pollard Steelwood Work Benches



No. 131—Pollard Steelwood Top Bench with Back Plate, End Plates and Lower Shelf



No. 134—Pollard Steelwood Top Table with Lower Shelf



No. 132—Pollard Steelwood Top Benches with Back Plate, End Plates and Angle Tie Rods



No. 135—Pollard Steelwood Top Table with Angle Tie Rods



No. 133—Pollard Steelwood Top Bench with Back Plate and End Plates



No. 136—Pollard Steelwood Table

Steelwood is a combination top for a work bench. The first 12 inches of working surface is laminated hard maple, $2\frac{1}{2}$ inches thick, the balance of the top, steel, $\frac{1}{8}$ inch thick. Wood tops will not warp as they are made of strips of hard maple, edge grained, kiln dried, glued and steel bolted through laminations, the actual thickness being $2\frac{1}{2}$ inches.

Two or more of the standard benches can be joined together to make any length of bench desired. Use any standard height of bench leg as: 30, $32\frac{1}{4}$ or 35 inches. A 30-inch bench leg makes a bench $32\frac{1}{2}$ inches to the working surface or top of bench.

Two legs furnished with each table.

Prices of Benches do not Include Steel Bench Drawers

When ordering steelwood benches give number of the bench desired, width, length and height of bench leg.

No. 131

Width Bench.....inches	24	29	$32\frac{1}{2}$	36
$4\frac{1}{2}$ -Foot Length.....each	\$63.00	\$69.00	\$73.25	\$76.75
5-Foot Length.....each	66.75	72.25	76.75	81.50
6-Foot Length.....each	72.25	77.50	82.00	87.00

No. 132

Width Bench.....inches	24	29	$32\frac{1}{2}$	36
$4\frac{1}{2}$ -Foot Length.....each	\$59.00	\$65.00	\$69.25	\$72.50
5-Foot Length.....each	62.75	68.25	72.75	77.50
6-Foot Length.....each	68.25	73.50	78.00	83.00

No. 133

Width Bench.....inches	24	29	$32\frac{1}{2}$	36
$4\frac{1}{2}$ -Foot Length.....each	\$57.00	\$63.00	\$67.25	\$70.50
5-Foot Length.....each	60.75	66.25	70.75	75.50
6-Foot Length.....each	66.25	71.50	76.00	81.00

No. 134

Width Bench.....inches	24	29	$32\frac{1}{2}$	36
$4\frac{1}{2}$ -Foot Length.....each	\$60.00	\$66.00	\$70.25	\$73.75
5-Foot Length.....each	63.75	69.25	73.75	78.50
6-Foot Length.....each	69.25	74.50	79.00	84.00

No. 135

Width Bench.....inches	24	29	$32\frac{1}{2}$	36
$4\frac{1}{2}$ -Foot Length.....each	\$56.00	\$62.00	\$66.25	\$69.75
5-Foot Length.....each	59.75	65.25	69.75	74.50
6-Foot Length.....each	65.25	70.50	75.00	80.00

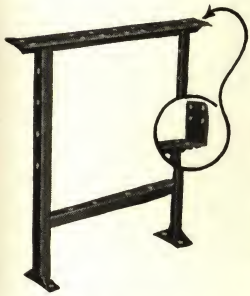
No. 136

Width Bench.....inches	24	29	$32\frac{1}{2}$	36
$4\frac{1}{2}$ -Foot Length.....each	\$54.00	\$60.00	\$64.25	\$67.75
5-Foot Length.....each	57.75	63.25	67.75	72.50
6-Foot Length.....each	63.25	68.50	73.00	78.00

All numbers of benches are available in 3, 8, 9, 10 and 12-foot lengths in all widths. Prices on application.

Pollard Bench Legs

Types A, B, D and G



Heavy type legs are constructed to meet the demand of the shop or factory that has heavy work to do, such as pounding, twisting, bending, etc. Light type legs are for light manufacturing and light assembly work.

Top is made of two angles $2\frac{1}{2} \times 1\frac{1}{2} \times \frac{1}{8}$ inch, welded together forming a tee section, having a width of 4 inches. Tee section is set into a slot cut in uprights and welded in.

All legs have an overhang of $3\frac{1}{2}$ inches.

Uprights made of $2\frac{1}{2} \times 1\frac{1}{2} \times \frac{1}{8}$ inch angle, cross of $1\frac{1}{2} \times 1\frac{1}{2} \times \frac{1}{8}$ inches. Top pierced for planking, using $\frac{3}{8}$ -inch bolts, upright for stringer, feet for fastening to floor and cross for shelving. Bracket illustrated used for supporting backboard.

Sizes shown in table below are standard. Other sizes are special and carry an extra of 20 per cent, figured on the nearest size.

Olive green finish

Prices given do not include the bracket.

No.	Each	Wdth. In.	Ht. In.	Wt., Lb.	No.	Each	Wdth. In.	Ht. In.	Wt., Lb.
1-A	\$5.75	28	30	19½	1-D	\$6.35	31½	30	20½
2-A	6.25	28	32¼	20	2-D	6.85	31½	32¼	21
3-A	6.75	28	35	20½	3-D	7.35	31½	35	21½
1-B	5.50	23	30	17	1-G	6.75	36	30	22
2-B	6.00	23	32¼	18	2-G	7.25	36	32¼	22½
3-B	6.50	23	35	18½	3-G	7.75	36	35	23

Backboard brackets \$1.00 each.

Pollard Bench Legs

Types L and M—Light Type

For light work benches.

Top is made of $2\frac{1}{2} \times 1\frac{1}{2} \times \frac{1}{8}$ inch, cross members $1\frac{1}{4} \times 1\frac{1}{4} \times \frac{1}{8}$ inch angle all welded by electric arc. Top pierced for planking, back for stringer, brace for shelving, feet to fasten same to floor.

Olive green finish.

No.	Each	1-L	2-L	3-L	1-M	2-M	3-M
Each		\$4.00	4.30	4.60	4.50	4.80	5.10
Width.....inches		23	23	23	28	28	28
Height.....inches		30	32¼	35	30	32¼	35
Weight.....pounds		13	13	13½	14	14	14½

Backboard brackets, 80 cents each.

Pollard Steel Bench Drawers



Easily attached to any wood top bench with 8 screws.

Made of 16 and 18-gage steel; equipped with padlock attachment. Drawers slide on 2 channels. Trays furnished at additional cost.

Olive green finish.

No.	Each	Size In.	Wt., Lb.	No.	Each	Size In.	Wt., Lb.
700	\$6.00	12x20x4	11	704	\$8.00	14x22x6	17
701	6.50	12x20x5	12	705	8.75	18x24x5	19
702	7.00	14x22x4	15	706	9.25	18x24x6	20
703	7.50	14x22x5	16	707	9.75	20x20x6	21

Trays, \$2.10 extra. Cabinet locks, cylinder type, \$2.00 extra. Master keys, 85 cents extra. Drawer attachment for steel benches, \$2.10 extra.

Pollard Stools and Chairs

With Locked Corners

Stool frame consists of two main members or legs. Each leg is one continuous piece of angle $\frac{3}{4} \times \frac{3}{4} \times \frac{1}{8}$ in. notched out and bent to form rest for $13\frac{1}{2}$ and $14\frac{1}{2}$ in. wood seat. Each foot is formed with a ball. Flat steel cross braces are cut off at angle to conform with angle of legs. Stretchers are $1\frac{1}{2} \times \frac{1}{2}$ in. cut off at angle to conform with angle set of legs. Back is made of curved plywood, 6x12 in. Frame is olive green and wood parts are natural.



Stationary

Series N-1 has $13\frac{1}{2}$ -inch round seat and Series N-2 has $14\frac{1}{2}$ -inch round seat.

Stools and chairs 28 to 36 inches in height have double stretchers.

If back for stool is desired add B to No. and \$2.75 to price of stool.



Ht. In.	N-1 Each	N-2 Each	Ht. In.	N-1 Each	N-2 Each	Ht. In.	N-1 Each	N-2 Each
16	\$5.00	\$5.50	24	\$6.00	\$6.50	32	\$7.00	\$7.50
18	5.25	5.75	26	6.25	6.75	34	7.25	7.75
20	5.50	6.00	28	6.50	7.00	36	7.50	8.00
22	5.75	6.25	30	6.75	7.25	..	....	....

Adjustable

Adjustment for various heights made by means of nut and bolt combination at lower part of stool frame. Adjusted on 1-inch centers giving a total adjustment of 6 inches overall.

Series A-1 has $13\frac{1}{2}$ -inch seat and series A-2 has $14\frac{1}{2}$ -inch seat.

If back for stool is desired add B to No. and \$2.75 to price of stool.

Ht. ....in.	A-1	18-24	22-28	26-32	30-36
Each.....		\$6.50	6.75	7.25	7.75

Ht. ....in.	A-2	18-24	22-28	26-32	30-36
Each.....		7.00	7.25	7.75	8.25



Swivel

Swivel parts can be attached to any type of stool frame, stationary or adjustable and any type of seat.

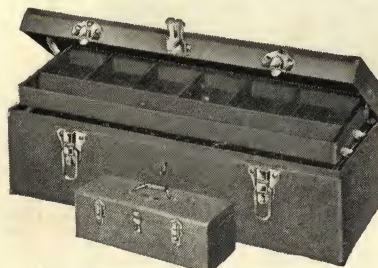
Made of a steel stamping having a very broad bearing race of 5-inches and swivels on ball bearings.

For swivel, add \$3.50 to above prices of stationary or adjustable stools and chairs.

Wood Seats

No. 1, $13\frac{1}{2}$ -Inch Round Seat.....	each	\$2.00
No. 2, $14\frac{1}{2}$ -Inch Round Seat.....	each	2.50

No. 700 Park Quality Tool Boxes



A single tray canti-lever type all purpose tool box made from heavy gage steel with all seams electrically welded.

Cover has continuous piano-type hinge. All outside hardware is heavily nickel-plated for rust resistance.

Size, $7\frac{1}{4} \times 6\frac{5}{8} \times 20$ inches.

Finished in dark copper vidreo hammerloid enamel.

Packed 1 to a carton; 6 to a shipping case.

Shipping weight per case of 6, 50 pounds.

No. 700.....	each	\$7.25
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Style 31 Gerstner Tool Cases



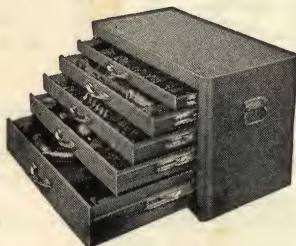
Has a convenient arrangement of different sized drawers—a place for every tool.

The lid is self-hinging, has a felt lined tray to lay tools on or can be slid under the bottom drawer.

Drawer fronts are figured and polished quartered oak, have sheet metal bottoms, felt lined. Trimmings are polished and nicked.

Art. Leather No.	Quar. Oak No.	Each	Outside Dimensions Inches	LENGTH Short Drawers	INCHES Long Drawers	Depth Drawers Inches
31	031	\$24.00	16x11½x8½	6½	14½	6¼
31-A	031A	25.00	18x11½x8½	7½	16½	6¼
31-B	031B	26.00	20x11½x8½	8½	18½	6¼
31-C	031C	27.00	20x11½x9½	8½	18½	7¼

No. 285 Kennedy Heavy Duty Tool Chests



Provides for a complete assortment of tools. Especially suited for mill maintenance men and garage mechanics. Has five full-sized drawers furnishing space for all types of tools and equipment, including a ¼-inch drill.

Top drawer is divided into two sections, one 9¼ inches wide and the other 5½ inches

wide. Drawer two has a division for sockets. All drawers move easily on strong compound drawer slides with positive stops which permit full extension without spilling contents. Spring release permits easy removal of drawers.

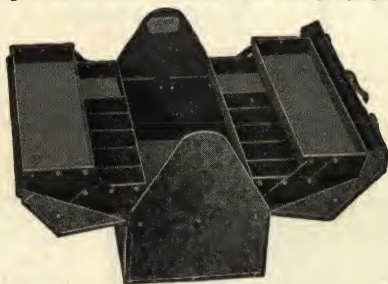
Body and four top drawers are constructed of 20-gage steel. Pans and bottom drawer are of 18-gage steel.

Finished in dark gray ripple baked enamel and equipped with bright chromium plated drawer handles, striped with red, and a lock bar which fits across the front of the drawers and can be secured with a padlock.

Dimensions overall: length, 28½ inches; width, 15¾ inches; height, 17½ inches.

No. 285, Shipping Weight, 90 Pounds.....each \$45.00

Kennedy All Steel General Mechanics' Kits



The four trays swing out of kit when lids are opened. Steel handle; fastened with draw bolt hasp and staple. Three skid rails welded to bottom. Seal brown ripple baked enamel finish outside, dark green smooth baked enamel trays.

Packed in individual cartons.

No.	*1017	1018
Each.....	\$11.00	12.50
Dimensions.....inches	17x8x10	18x10x12½
Net Weight.....pounds	11¼	17½
Shipping Weight.....pounds	58	20

*Packed 4 to a carton.

No. 520 Kennedy Machinists' Cases



Neither heat nor moisture will affect case. Drawers slide easily on super-compound drawer slides that stop only after they are extended out of the case giving a clear view of the contents. Drawers are completely lined with felt.

Case is strongly reinforced with boxed ends. Front panel, which slides under drawers when box is open, fits against drawers locking them with 60-change lid lock. Rust resisting fittings with seal brown ripple baked enamel finish. An adjustable partition is placed in each drawer except bottom one. Additional partitions may be purchased.

Packed 1 to a crate.

No. 520.....each	\$25.00
Outside Dimensions: Length.....inches	20
Width.....inches	8½
Height.....inches	13
Inside Dimensions: Till in Top.....inches	3¾x8¾x20
4 Drawers.....inches	1x7½x8½
1 Drawer.....inches	1½x7½x18½
1 Drawer.....inches	2x7½x8½
1 Drawer.....inches	2½x7½x18½
Net Weight.....pounds	27¾
Shipping Weight.....pounds	35

Kennedy Bighorn Steel Tool Kits



Tray is automatically lifted out with opening of the lid and it rests firmly when extended.

Has draw bolt hasp and staple.

Double seamed ends, corner irons and full length hinge.

Mar-proof green baked ripple enamel finish.

Packed 6 to a carton.

No.....	CS16	CS19
Each.....	\$4.90	5.10
Dimensions.....inches	16x7x7	19x7x7
Weight.....pounds	6	7
Weight per Carton.....pounds	43	48

No. K-20 Kennedy Tool Kits

An all-purpose tool kit with divided carrying tray. Tray

is 19½x7½x1¼ inches, and has three separate compartments, one, 13½x7½ inches; two 2¾x7½ inches.

Kit is 20x8½x9½ inches high.

Piano type hinge extends length of lid. Kit is locked by hasp and staple.

Made of 20 and 22 gage steel, dark

green ripple baked enamel finish. Packed 4 to a carton. Weight each, 12 pounds; per carton, 58 pounds.

No. K-20.....each \$7.50

Lufkin Steel Rule Graduations

English Measure

Lufkin steel rules are divided into parts of inches as shown in the following table:

No. of Graduation	First Corner	Second Corner	Third Corner	Fourth Corner
1	10, 20, 50, 100	12, 24, 48	16, 32, 64	14, 28
2	10, 20, 50, 100	12, 24, 48	16, 32, 64	8
3	32	64	10	50
4	64	32	16	8
5	32	64	10	100
7	64	32	16	100
10	32	64	..	..
11	64	100	..	..
12	50	100	..	..
16	32	64	50	100

No. 2110R Lufkin Flexible Steel Rules

Machine Divided



Made of spring tempered steel about 1/2 inch wide. Made in the 6-inch length only.

Graduated in 16ths, 32nds and 64ths and on both sides of the rule. The 32nds and 64ths graduations are on the lower edge of each side and start from the same end. The 16th graduation is on the upper edge of the 32nds side. Both 32nds and 64ths have readable graduations.

Packed 6 in a box. Weight per dozen, 1/4 pound.

No. 2110R.....each \$1.35
No. S2110R, Stainless Steel.....each 2.00

No. S2110R is the same as the No. 2110R, except that it is made of stainless steel.

Metal bound leather cases with pocket clip for 6-inch rules can be furnished at 25 cents each.

Lufkin Steel Rules



With Readable Graduations

Spring tempered. Machine divided. Carefully ground. Graduated with clear, dark lines and figures. Graduated both edges of both sides. Approximate thickness, 3/64 inch.

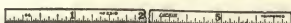
No. 2204R. No 4 graduation: 8ths, 16ths, 32nds, 64ths inch. Lengths, 1 to 48 inches. Readable graduations on all lengths: 64ths numbered every 8th division; 32nds numbered every 4th division.

No. 2207R. No. 7 graduation: 16ths, 32nds, 64ths, 100ths inch. Lengths 1 to 48 inches. Readable graduations on all lengths: 64ths numbered every 8th division; 32nds numbered every 4th division; 100ths numbered every 10th division.

Lgth. In.	Each	Approx. Width In.	No. in Box	Wt. Lb. per Doz.	Lgth. In.	Each	Approx. Width In.	No. in Box	Wt. Lb. per Doz.
1	\$.50	1/2	6	1/8	12	\$ 2.50	1 1/4	6	2
2	.70	1/2	6	1/8	18	4.00	1 1/4	*1	4 1/2
3	.95	1/2	6	1/8	24	4.75	1 1/4	*1	6
4	1.15	5/8	6	1/2	36	10.50	1 1/4	*1	9
6	1.35	3/4	6	3/4	48	15.00	1 1/4	*1	12
9	2.05	7/8	6	1 1/2					

*One in package.

No. 2310 Lufkin Narrow Steel Rules



Machine divided, spring tempered. Approximate width, 1/4-inch, thickness, 3/64-inch. No. 10 graduation, 32nds, and 64ths; graduated one edge of each side. Packed 6 in a box.

Length.....inches	4	6	9	12
No. 2310.....each	\$1.15	1.35	2.05	2.50
Weight per Dozen.....ounces	3	4	6	10

No. H2204R Lufkin Hook Rules

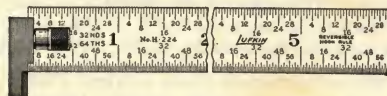
Spring Tempered



No. 4 grad. in 8ths, 16ths, 32nds, 64ths. Approx. thick., 3/64-in. Rules 12-in. and under, 3 in box; others 1 in pkg.

Length.....in.	6	9	12	18	24	36
No. H2204R.....each	\$2.20	2.90	3.30	4.90	5.75	11.50
Approx. Width.....in.	3/4	7/8	1	1 1/4	1 1/4	1 1/4

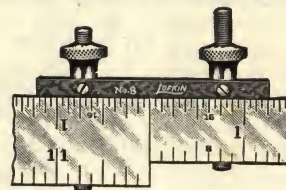
No. H224 Lufkin Spring Tempered Hook Rules



Rule is machine divided. Has reversible hook which can be changed to any of the 4 graduations and read from zero without removing any parts. Loosen the thumbscrew until slot in the hook is clear from the scale, turn the hook to the graduation desired, tighten the thumbscrew and hook rule is ready for use. No. 4 graduation, 8ths, 16ths, 32nds, 64ths. Readable graduations on both 32nds and 64ths edges with one end of both sides graduated 32nds.

Length.....inches	6	9	12
No. H224.....each	\$2.55	3.25	3.65
Approximate Width Rule.....inches	3/4	7/8	1
Weight per Dozen.....pounds	1	1 1/2	2 1/4

No. 8 Lufkin Rule Clamps



Used to join two rules together, end to end, making one long rule. As the clamping parts are adjustable, the rules do not need to be the same width.

This clamp will firmly hold rules up to 1 1/4 inches in width. Finish, mottled blue.

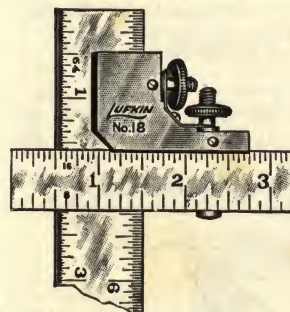
Packed 4 in a box.

Weight each, 2 ounces.

No. 8.....each \$2.00

No. 18 Lufkin Right Angle Rule Clamps

For Use with Combination Square Blades



Designed to firmly hold at right angles, a combination square blade 12, 18, or 24 inches long and any regular steel rule not over one inch wide.

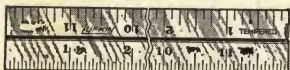
Used in this combination, together with the heads of a combination square, many valuable applications and uses are provided.

A clip holds the two clamping nuts in place at all times, eliminating interference of the two bolts and nuts and

making operation of tool more simple. Packed 4 in a box.

No. 18A, Size, 1 1/2 x 1 25/32 Inches.....each \$2.20
No. 18B, Size, 2 5/8 x 2 3/16 Inches.....each 2.50

No. 2504 Lufkin Combination Square Blades



Used by mechanics in metalworking, etc. Blade of tempered steel. Machine divided legible markings.

Graduation No. 4: 8ths, 16ths, 32nds, 64ths inch. No. 2504R, readable 32nds and 64ths.

Length.....in.	4	6	9	12	18	24	36
No. 2504.....ea.	\$1.30	1.85	2.35	3.00	4.65	6.00	19.40
No. 2504R.....ea.	.....	.....	.....	3.50	5.55	7.20	.....

Lufkin Combination Squares



Tempered blade with square and center heads. All square heads except 4-inch length with level. No. 4 graduation: 8-16-32-64ths. No. 7 can be furnished: 16-32-64-100ths. Packed 1 in a box.

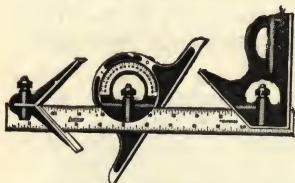
No. 25C—Cast Head

Length.....inches	4	6	9	12	18	24
No. 25C.....each	\$4.45	5.00	6.70	7.35	9.00	10.35

No. 35C—Hardened Drop Forged Head

Length.....inches	4	6	9	12	18	24
No. 35C.....each	\$6.05	7.20	9.10	9.75	11.40	12.75

Lufkin Combination Sets



Tempered blade with cast square, center and protractor heads with levels. Regularly furnished with No. 4 graduation: 8-16-32-64ths; No. 7 graduation can be furnished: 16-32-64-100ths. Packed 1 in a box.

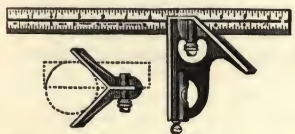
No. 525—Protractor Head Not Reversible

Length.....inches	9	12	18	24
No. 525.....each	\$11.35	12.00	13.65	15.00
Weight.....pounds	1½	1⅞	2⅞	2⅞

No. 625—With Reversible Protractor Head

Length.....inches	9	12	18	24
No. 625.....each	\$13.20	13.85	15.50	16.85
Weight.....pounds	1½	2⅞	2⅞	2⅞

No. 11 Starrett Combination Squares



With the adjustable blade this forms a convenient and useful tool for mechanics' use. It is convenient for a depth gage, to square in a mortise, or a miter, while with the auxiliary center

head it forms a centering square, both inside and outside.

The blades are hardened and graduated in No. 4; 12-inch blades also available with No. 7 graduation at no extra charge; 12, 18 and 24-in. blades also available with No. 16 Quick Reading graduation at slight additional cost. Blades of No. 4 graduation will be sent unless otherwise ordered.

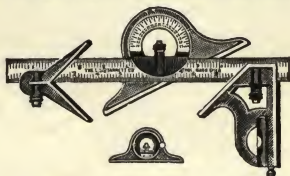
Stainless steel 12-inch blades are also available.

Packed 1 in a box.

Size.....inches	4	6	9	12	18	24
With Center Head.....each	\$4.45	5.00	6.70	7.35	9.00	10.35
Less Center Head.....each	3.00	3.55	5.25	5.90	7.55	8.90

*No. 4 graduation only.

No. 9 Starrett Combination Sets



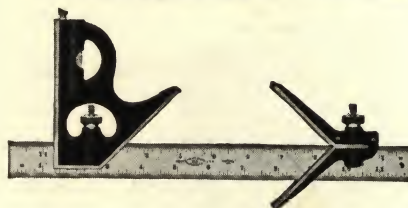
A combination set made up of rule on which slide the square, center, and protractor heads. Hardened blade.

Illustration shows combination square with center head and 7-in. bevel protractor, all on No. 11 square blade.

Graduated in No. 4; 12-inch blades also available with No. 7 graduation at no extra charge; all sizes also available with No. 16 Quick Reading graduation at slight additional cost. Blades of No. 4 graduation will be sent unless otherwise ordered.

Size.....inches	12	18	24
No. 9.....per set	\$12.00	13.65	15.00

Brown & Sharpe Combination Squares



Tempered blade with No. 4 graduation.

No. 400 has drop forged head; No. 402, cast iron head. Packed 1 in a box.

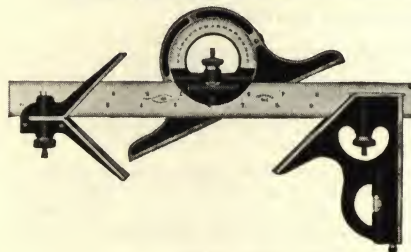
No. 400—With Hardened Head

Size.....inches	6	12	24
No. 400.....each	\$7.20	9.75	12.75

No. 402—With Head Not Hardened

Size.....inches	6	9	12	24
No. 402.....each	\$5.00	6.70	7.35	10.35

Brown & Sharpe Combination Sets



Tempered blade with No. 4 graduation.

No. 425 drop-forged head; No. 426, cast iron head.

All parts of same size interchangeable. One in box.

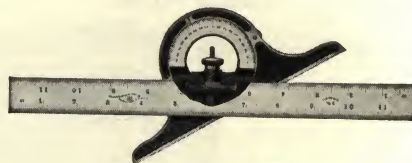
No. 425—With Hardened Heads

Size.....inches	12	24
No. 425.....each	\$14.40	17.40

No. 426—With Heads Not Hardened

Size.....inches	12	24
No. 426.....each	\$12.00	15.00

Brown & Sharpe Steel Protractors



No. 450, 12-Inch Size

Blades are tempered. No. 4 graduation.

No. 456 has reversible protractor head.

Size.....inches	12	24
No. 450.....each	\$7.65	\$10.65
No. 456.....each	9.50	12.50

No. 5 Lufkin Bevel Protractors

With Plain Protractor Head



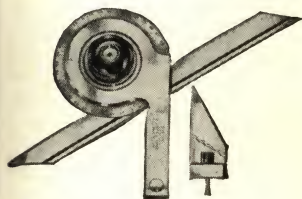
Tempered blade with No. 4 graduation, 8ths, 16ths, 32nds, and 64ths. Also with No. 7 graduation, 16ths, 32nds, 64ths, and 100ths inches.

The head is fitted with level.

Packed 1 in a box.

Length.....inches	9	12	18	24
No. 5.....each	\$7.00	7.65	9.30	10.65
Weight.....ounces	15	18	23	27

No. 360 Starrett Universal Bevel Protractors



A graduated disc with a fixed blade and adjustable stock.

Disc is graduated from 0 to 90 degrees each way, and rotates the entire circle.

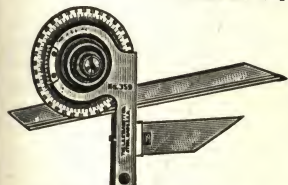
Length stock, 4 inches.

No. 360B furnished unless otherwise specified.

	With Case			Without Case		
No.	360B	360D	360F	360A	360C	360E
Each	\$23.40	26.50	27.50	20.00	22.00	23.00
Length, inches	7	12	7, 12	7	12	7, 12

Add \$3.85 for No. 360G acute angle attachment.

No. 359 Starrett Improved Universal Bevel Protractors



Dial graduated entire circle in degrees; has vernier and encases positive method for fine adjustments. Lower nut locks dial in its rotative path; middle nut at downward pressure engages adjusting device; upper nut locks blade at any point in its length. With acute angle attachment for obtaining small angles.

	With Case			Without Case		
No.	359B	359D	359F	359A	359C	359E
Each	\$36.90	40.00	41.00	33.50	35.50	36.50
Length Blade	7	12	7, 12	7	12	7, 12
No. 359G, Acute Angle Attachment Only						\$3.85
No. 359, 7-Inch Blade Only						2.00
No. 359, 12-Inch Blade Only						3.75

No. 66 Lufkin Universal Bevels



The stock is 3 inches long and solid on one edge for 1 3/4 inches forming a rest under blade where work can be accurately fitted. Can be used with No. 893 Lufkin Steel Protractor as a bevel protractor.

Packed 1 in a box.

No. 66 Universal Bevels

No. 183 Starrett Steel Protractors

For setting bevels, transferring angles, or for use as a T-square, etc. With rectangular head, giving four working faces, also two rows of figures reading both ways to show the complementary degrees. Blade, 6 inches long, and by means of patent lockjoint is set firmly by turn of nut.

Packed 1 in a box.

No. 183

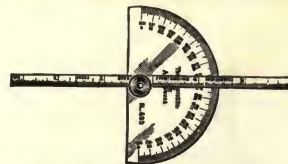
No. 21 Starrett Thin Steel Try-Squares

For machinists and draftsmen. Size, 6x4 inches. Thickness, 1/16 inch. Graduated in 16ths and 32nds on both sides.

Packed 1 in a package.

No. 21

No. 493 Starrett Protractor and Depth Gages



This tool will be appreciated by machinists, draftsmen and shop foremen. Any angle in one-half circle (180°) may be obtained and the back is finished to permit its being laid flat upon paper or work. Blade being adjustable permits its being set at any length within its capacity, permitting its use as a depth gage. Scale, clamped by a conveniently knurled nut, is graduated to 32nds and 64ths.

Made of tool steel. Weight, 3 ounces.

No. 493

No. 138 Lufkin Die Makers' Squares

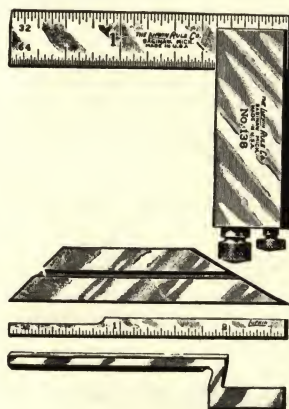
Designed so that the blades can be adjusted at an angle with the stock, which is particularly valuable in determining the clearance in dies.

Angle adjustment is made by means of the small thumb screw.

This square is furnished in various combinations.

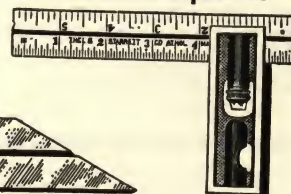
Packed 1 in a box.

Weight each, 3 ounces.



No. 138A, with Standard Blade	each	\$6.75
No. 138B, with Standard and Bevel Blades	each	7.30
No. 138N, with Standard and Narrow Blades	each	7.65
No. 138C, with Std., Narrow and Bevel Blades	ea.	8.20
No. 138CX, with Standard, Narrow, Bevel and Offset Blades	each	9.80
No. 138S, Die Makers' Square Set	each	10.70

No. 13 Starrett Double Squares



Bevel Blade

For machinists', toolmakers', and patternmakers' use. Sliding blade, shortened or extended full length, makes it more valuable than a full set of common squares. An extra angle blade with hexagon angle at one end and octagon angle on the other is advantageous to patternmakers.

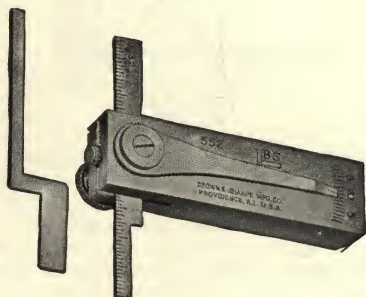
Made of carbon tool steel. Seat against which the blade is clamped being convex, the accuracy of square is not affected should corners of blade get injured.

Furnished in No. 4 graduation. A level is contained in the 6-inch size. Packed 1 in a box.

Furnished with both blades, unless otherwise ordered.

Size	inches	4	6
No. 13, Without Bevel Blade	each	\$3.35	\$5.15
No. 13, With Both Blades	each	4.30	6.25

No. 552 Brown & Sharpe Die Makers' Squares



For measuring die clearances, and for pattern makers to determine drafts on patterns.

Blade is locked in position by small clam screw. Can be set for any angle up to 8° either side of zero. Graduations show setting in degrees. Clamp screw on back of square locks setting.

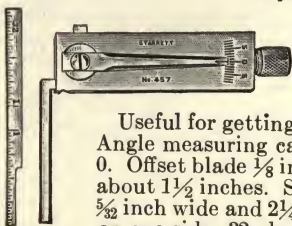
Straight blade, 2 1/4 inches long; graduated for 1 inch on each end, in 32nds on one side and 64ths on the other. Blade is 3/32 inch wide, except for 5/8 inch on one end where it is narrowed to 1/4 inch. Offset end, 1/8 inch wide, beveled on both sides of each edge. Remainder of the blade, 5/32 inch wide, fits into the body of the square.

Body of the square, approximately 2 1/4 x 5/8 x 3/8 inches, is hardened and ground.

Packed 1 in a box. Approximate weight, 3 1/2 ounces.

No. 552, Complete.....each \$8.25

No. 457 Starrett Improved Die Makers' Squares



Tool and die makers square with degree markings on stock or beam. Offset blade so light is unobstructed in small holes.

Useful for getting angles and drafts on patterns. Angle measuring capacity is 16°, 8° either side of 0. Offset blade 1/8 inch wide protrudes from square about 1 1/2 inches. Straight and graduated blade is 5/32 inch wide and 2 1/4 inches long. Graduated 64ths on one side; 32nds on other.

Beam dimensions are 5/8 inch wide, 1 1/2 inch thick and 2 1/8 inches long. Beam and blades are hardened and ground.

No. 457 C sent unless otherwise ordered. Packed 1 in a box.

No. 457 A, with Straight Blade Only.....each \$7.00

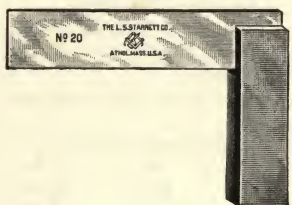
No. 457 B, with Offset Blade Only.....each 7.50

No. 457 C, Complete with Both Blades.....each 8.25

No. 20 Starrett Hardened Steel Squares

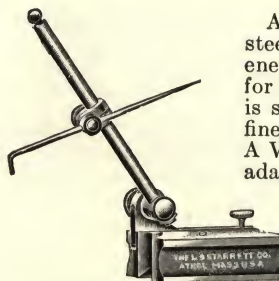
Recommended as standard square. Beams and edges are hardened and accurately ground. Not graduated. Special screws used to secure blade to beam on 36-inch size.

Prices for larger sizes upon application. Packed 1 in box.



Lgth. Blade from Beam Inner Edge to Blade End, In.	Each	Wood Case Each	Lgth. Beam In.
1 1/2	\$6.00	\$3.10	1 1/2
3	6.75	3.40	2 3/8
4 1/2	10.50	3.75	3 1/2
6	13.50	4.50	4 5/8
9	20.00	5.00	5 9/16
12	27.00	5.75	7
15	44.75	7.50	8 5/8
18	56.75	8.25	10 1/2
24	80.00	10.50	12 3/4
36	165.00	14.75	20

No. 56 Starrett Toolmakers' Surface Gages



Adapted for light work. Base is steel, nicely finished and casehardened, with depressions in the sides for the thumb and finger. Top side is slotted, and rocking bracket for fine adjustments is pivoted in same. A V-shaped groove in end and base adapts it for use on cylindrical work.

No. 56A, With 4-Inch Spindle.....each \$7.90

No. 56B, With 4 and 7-Inch Spindles.....each 8.40

No. 56C, With 7-Inch Spindle.....each 8.00

No. 57 Starrett Universal Surface Gages



Heavy base, grooved through the bottom and end, adapts gauge for use on or against circular work as well as flat surfaces. Spindle may be set upright or at any angle, or turned so as to work under the base and be sensitively adjusted to any position.

In the rear end of the base are two gage pins which may be pushed down to bear against the edge of a surface plate or in the slot of a planer bed for linear work.

Packed 1 in a box.

No.	57A	57B	57C	57D
Each.....inches	\$7.10	8.10	9.50	10.50
Base.....inches	3	3	3 3/4	3 3/4
Spindles.....inches	9	9 & 12	12	12 & 18

No. 257 Starrett Universal Surface Gages
Casehardened Steel Base

This gage has a heavy base, grooved through bottom and end, adapting it for use on or against circular work as well as flat surfaces. Spindle may be set upright or at any angle, or turned so as to work under base, and can be sensitively adjusted to any position.

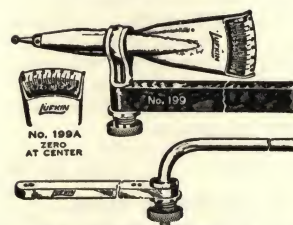
For small work spindle may be removed and scriber inserted in hole provided for it, where it can be sensitively adjusted and used to advantage on bench work. Base has 4 pins which may be pushed to bear against edge of surface plate, or in slot of planer bed for linear work also adapting gage to be used as a locomotive guide liner. Packed 1 in a box.



No.	257A	257B	257C	257D
Each.....	\$8.80	9.80	11.00	12.00
Lgth. Base..in.	3	3	3 3/4	3 3/4
Ht. Spindle and Base..in.	9	9 & *12	12	12 & *18

*Height of spindle only.

No. 199 Lufkin Universal Indicators



One unit; makes a complete revolution on its own center and also on the clamping bolt. Two reading faces, one on the flat side or face, the other on the end or top, making this indicator especially suitable for jig boring, milling machine and drill press work. In such work, the end graduation makes

possible reading without a mirror. When used with a surface gage and vernier height gage, end reading is the convenient way. Packed 1 in a box. Weight, 5 ounces.

No. 199, Zero Reading at End.....each \$7.50

No. 199A, Zero Reading at Center.....each 7.50

Plush Lined Case for Above, Extra.....each 1.25

No. 520K, Spindle Clamp with 5/16-Inch Hole for Surface Gage Rod.....each 1.25

No. 454 Starrett Vernier Height Gages



Measurements are obtained in connection with the toolmakers' buttons in locating the center distance of bushings in jibs, dies, etc. Hardened bars. Furnished with attachment and case, unless otherwise specified.

12-Inch

Base is $3\frac{3}{4}$ inches long. Bar is .850 inch wide and $\frac{3}{16}$ inch thick. One side is graduated to give a full 12-inch reading from 1 to 12 inches in 1/1000 inch.

	With Case	Without Case
No. 454A, with Attachment.....each	\$71.25	\$64.00
No. 454B, without Attachment.....each	67.25	60.00
No. 454C, Attachment.....each	4.00	

18-Inch

Measurements taken on outside of jaw. Base is $5\frac{1}{4}$ inches long. Bar is $1\frac{1}{4}$ in. wide and $\frac{1}{4}$ inch thick. Graduated on one side only to read from $1\frac{1}{2}$ to 18 in. by 1/1000 in.

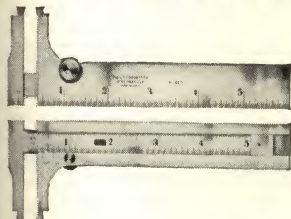
	With Case	Without Case
No. 454F, with Attachment.....each	\$150.25	\$140.25
No. 454G, without Attachment.....each	144.00	134.00
No. 454H, Attachment.....each	6.25	

24-Inch

Measurements taken on outside of jaw. Base is $6\frac{7}{8}$ inches long. Bar is $1\frac{1}{4}$ inches wide and $\frac{1}{4}$ inch thick. Graduated on one side only to read from $1\frac{1}{2}$ to 24 inches by 1/1000 inch.

	With Case	Without Case
No. 454, with Attachment.....each	\$274.25	\$259.25
No. 454, without Attachment.....each	268.00	253.00
No. 454H, Attachment.....each	6.25	

No. 425 Starrett Pocket Slide Calipers



Clamping device with left-hand thread may be locked by the thumb of the same hand in which the tool is held.

Two lines on the stock (see lower illustration) enable the setting of either inside or outside measurements.

Graduated in 32nds and 64ths of an inch.

Also available in stainless steel.

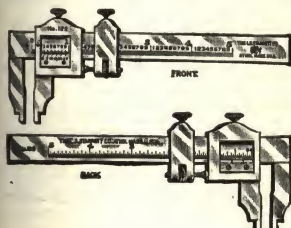
Packed 1 in a box.

Size.....inches	3	5	6
No. 425.....each	\$6.40	\$7.80	\$11.00
Case, Extra.....each	.60	.80	1.00
Depth Jaws.....inches	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{16}$
Nibs When Closed.....inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{4}$

No. 122 Starrett Vernier Calipers

Points are placed on beams and slides of all sizes except 36 and 48-inch for setting dividers to transfer distances. Jaws are hardened, ground and lapped parallel.

Graduated on front side to read 1000ths of an inch for outside measurements and on the back to read direct in 1000ths of an inch for inside measurements by means of a vernier on each side. Sent with case unless otherwise ordered. Larger sizes upon application. Packed 1 in a box.



Size In.	With Case Ea.	Without Case Ea.	Depth* In.	Width Nibs In.
6	\$40.25	\$36.00	$1\frac{1}{16}$	.250
12	48.75	45.00	$2\frac{3}{8}$	.300
24	94.00	84.00	$2\frac{3}{8}$	.300
36	156.00	134.50	3	.500
48	280.75	245.00	3	.500

$\frac{1}{4}$ -In. Cylind. Plug.ea. \$6.75

*When closed.

No. 510 Lufkin Depth Gages



A handy depth gage for tool makers, die makers, machinists and others.

The head is made of steel, casehardened. $2\frac{1}{2}$ inches wide across the base, $\frac{1}{8}$ -inch thick, and is designed to fit the hand. The head, being notched on one side, allows the graduations to be easily read.

The blade is fitted securely into a slot on one side of the head, and is held in place by means of knurled nut and tension spring.

Fitted with a 6-inch narrow $\frac{3}{16}$ -inch spring tempered blade, graduated 32nds and 64ths.

No. 510.....each \$2.75

No. H511 Lufkin Combination Depth Gages and Hook Rules



Fitted with narrow ($\frac{3}{16}$ -inch) spring tempered blade marked one side 32nds, other side 64ths inch.

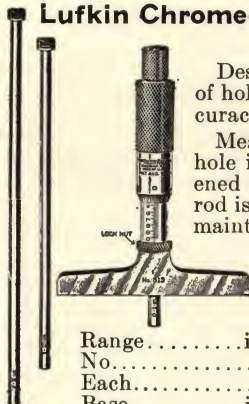
A convenient tool for certain kinds of calipering work. Serves as a depth gage, the hook being readily detached by giving eccentric stud a half turn.

A 6-inch depth gage with degree lines on head. One side of head is marked both right and left, with 30, 45, and 60-degree lines. Has scale or blade equipped with hook; the blade is a standard narrow pattern hook rule.

Packed 1 in a box; weight each, 2 ounces.

No. H511.....each \$4.85

Lufkin Chrome-Clad Micrometer Depth Gages



Designed for use in measuring the depth of holes, slots, etc., with micrometer accuracy. For measuring by thousandths.

Measuring rods are inserted through a hole in the screw and are securely fastened by means of a knurled cap. Each rod is equipped with an adjusting nut to maintain their individual lengths.

Equipped with a patent lock nut which permits reading to be maintained. Packed 1 in a hinged wooden box with clasp.

Range.....inches	0 to 3	0 to 6
No.....	513	515
Each.....	\$17.75	22.00
Base.....inches	3	5
Weight.....ounces	12	18

No. 104 Starrett High Speed Indicators

Working parts encased. Two rows of figures on dial plate read right or left. Has pointed steel and two rubber tips. Metal handle. Nickel plated. One in a box.



No. 104.....each \$2.20

With Case.....each 4.20

With $7\frac{1}{2}$ -In. Spdle. for Use on Dairy Machines.....each 3.15

With $7\frac{1}{2}$ -In. Spdle. and Case.....each 6.90

No. 107 Starrett Speed Indicators

Automatically registers hundreds as well as units and tens. Registers 5000 revolutions. Furnished with pointed steel tip which forms end of spindle and two rubber tips may be slipped over metal tip. Has a spring finger trip.



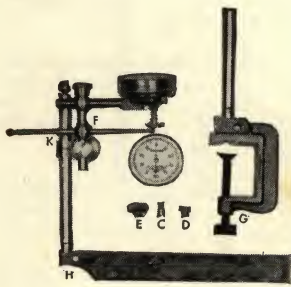
Hard rubber handle. Nickel plated.

Packed 1 in a box.

No. 107.....each \$5.40

With Case.....each 7.60

No. 196 Starrett Universal Dial Test Indicators



Can be adjusted to any angle. Easily read and very sensitive. Circumference of dial is divided into 100 equal spaces, each representing a movement of the contact point of 1/1000th of an inch.

One revolution of hand indicates 1/10th of an inch, capacity of instrument being approximately 2/10ths. By turning knurled rim, adjustable dial may be moved to bring 0 mark to any point desired.

With contact points D, E any exterior surface may be tested as in cutters, racks, etc.; contact point C with its smaller radius and diameter is for use only on plain surfaces.

Special tool post holder and sleeve are useful in lathe work. No. 196K sleeve is adapted for use on surface gage spindles, 5/16-inch diam.; No. 196L sleeve is used on 3/8-inch spindles. No. 196G clamp attaches indicator to large lathe and planer tools, milling arbors, etc.; No. 196F attachment adapts it for use over blockings on face plates, to reach inside of holes to approx. 1 1/8-in. depth, etc. By use of short length round rod in Nos. 196K, 196L sleeves, No. 711 indicator adapts to No. 196 attachments.

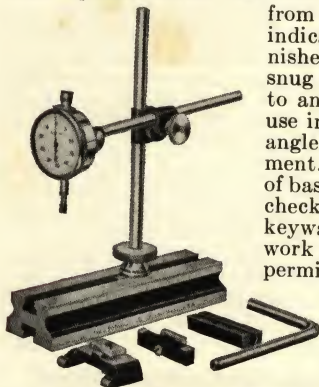
No. 196A, Indicator with Attachments as Shown, with Case.	each	\$18.50
No. 196B, Indicator with 3 Contact Points, C, D, E, with Case.	each	12.25
No. 196F, Hole Attachment.	each	2.50
No. 196G, Clamp, 1 1/16" Capacity, Flat or Round.	each	1.75
No. 196H, Tool Post Holder 3/8x3/4x6", Upright Spindle.	each	1.25
No. 196K, Sleeve Comp., 1/4" and 3/8" Holes.	each	1.25
No. 196L, Sleeve Comp., 1/4" and 3/8" Holes.	each	1.25

Extra contact points, 20 cents each.

*Not furnished with No. 196A unless otherwise ordered.

No. 665 Starrett Dial Test Indicators

For general work of inspectors, machinists and toolmakers. Spindle travel .125 inch. Reads in half thousandths



from 0-25-0. Other types of dial indicators for tool can be furnished. By means of swivel post snug horizontal arm is adjustable to any position or is removed for use in tool post of a lathe. Right angle arm provides further adjustment. Base stops clamp in T-slot of base to provide guides to permit checking from a beveled surface, keyway, in T-slot, square edge, work plate, etc. Tool-post holder permits use of other parts such as

horizontal gage holding rod, offset arm, etc., in connection with dial indicator, in lathe tool posts and various machine set-

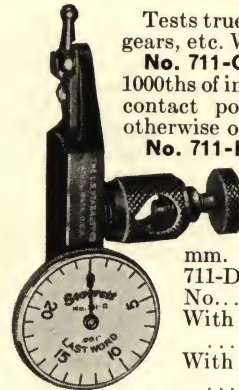
ups. Bushing fits into swivel post snug reducing hole size to 3/8 inch to facilitate clamping to surface gage spindles, etc.

Furnished with plain bearings unless otherwise ordered.

No. 665, Indicator with All Attachments except E and F in Finished Wood Case:

With Plain Bearings.	each	\$37.50
With Jewel Bearings.	each	41.00
No. 665A, Base.	each	7.50
No. 665B, Upright Base Post, including Clamping Mechanism.	each	4.75
No. 665C, Horizontal Gage Holding Rod, including Clamping Mechanism.	each	3.25
No. 665D, Swivel Post Snug, Complete with		
No. 665-L Bushing.	each	3.75
No. 665E, Base Stop, Square.	each	1.75
No. 665F, Angular Base Stop or Keyway Guide.	each	1.35
No. 665G-1, Offset Arm.	each	.70
No. 665H, Tool-Post Holder.	each	1.75
No. 665L, Reducing Bushing for Post Snug.	each	.35

Series 711 Starrett Last Word Test Indicators Adjustable Dial



Tests trueness of lathe centers, arbors, cutters, gears, etc. With case unless otherwise ordered.

No. 711-C. Range, .025 inch. Measures by 1000ths of inch. Hard chrome-plated friction joint contact point. With gooseneck shank unless otherwise ordered.

No. 711-D-10. Range, .024 inch. Measures by 10,000ths of inch. Hard chrome-plated contact point. Gooseneck shank unless otherwise ordered.

No. 711-M-D-10 measures by .002 mm. (1/500 mm.); same price as No. 711-D-10.

No. 711-C	711-C	711-D-10
With Gooseneck Shank	each	\$20.50
With Universal Shank	each	21.25
Without Shank	each	19.15

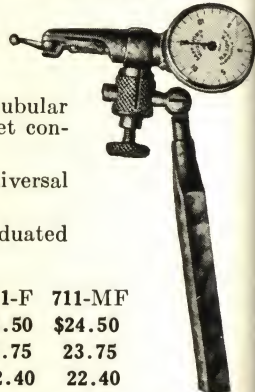
Range, .030 Inch
Dial Reading, 0-15-0
Dial Graduated .001 Inch

Reversible action. Swiveling tubular body. Hard chrome plated ratchet contact point.

No. 711-F. Furnished with universal shank unless otherwise specified.

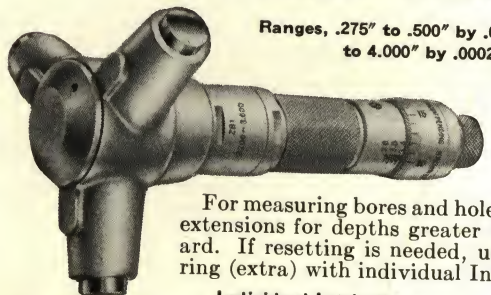
No. 711-MF. Metric type, graduated .01 mm. (1/100 mm.).

No. 711-F	711-F	711-MF
With Universal Shank	ea.	\$24.50
With Gooseneck Shank	ea.	23.75
Without Shank	ea.	22.40
Case Only for No. 711-F	ea.	1.50



No. 711-F

Brown & Sharpe Intrimiks



Ranges, .275" to .500" by .0001"; .500" to 4.000" by .0002"

For measuring bores and holes. Use 1 or 2 extensions for depths greater than standard. If resetting is needed, use resetting ring (extra) with individual Intrimik.

Individual Intrimiks

RANGE, INCHES				RANGE, INCHES			
From	To	By	Each	From	To	By	Each
.275	.350	.0001	\$59.00	1.200	1.400	.0002	\$67.00
.350	.425	.0001	59.00	1.400	1.600	.0002	67.00
.425	.500	.0001	59.00	1.600	2.000	.0002	74.00
.500	.600	.0002	64.00	2.000	2.400	.0002	74.00
.600	.700	.0002	64.00	2.400	2.800	.0002	74.00
.700	.800	.0002	64.00	2.800	3.200	.0002	74.00
.800	1.000	.0002	67.00	3.200	3.600	.0002	74.00
1.000	1.200	.0002	67.00	3.600	4.000	.0002	74.00

Intrimik Sets

With wrenches to attach extension. In wood case.

3 Intrimiks; range, .275 to .500 in. by .0001 in. Includes 2 setting rings, .350 and .500 in.; extension for measuring to 6-in. depth.

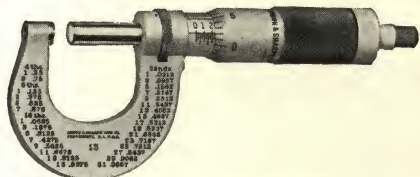
3 Intrimiks; range, .500 to .800 in. by .0002 in. Includes 2 setting rings, .500 and .700 in.; extension for measuring to 9-in. depth.

4 Intrimiks; range, .800 to 1.600 in. by .0002 in. Includes 2 setting rings, 1.000 and 1.400 in.; extension for measuring to 9-in. depth.

6 Intrimiks; range, 1.600 to 4.000 in. by .0002 in. Includes 3 setting rings, 2.000, 2.800 and 3.600 in.; extension for measuring to 9-in. depth.

Brown & Sharpe Micrometer Calipers**With Carbide Measuring Faces**

Range from 0 to 1 Inch

**No. 13RS, with Ratchet Stop**

Combines the utility of C type frame with advantages of frame with narrow anvil end for measuring deep in slots. Frame is proportioned for strength and rigidity.

Large diameter thimble has wide divisions, greater magnification for easy accurate readings.

Stainless steel, one-piece spindle and screw, hardened and ground threads. Sliding taper thread adjustment.

Rust-resistant dull chrome finish, easy reading black graduations and figures.

Adjustable thimble provides simple adjustments for positioning thimble graduations. Thimble locked to screw; adjusted longitudinally on the screw.

Packed 1 in a box.

Nos. 12 and 12RS

For Measuring by 1000ths of an Inch

No. 12	each	\$15.50
No. 12RS, with Ratchet Stop	each	16.25

Nos. 13 and 13RS

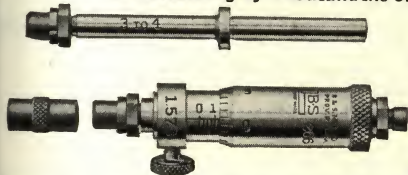
For Measuring by 10,000ths of an Inch

No. 13	each	\$18.00
No. 13RS, with Ratchet Stop	each	18.75

Case can be furnished at \$1.85 extra.

Brown & Sharpe Inside Micrometers**With Clamp Screws**

For Measuring by Thousandths of an Inch



Consists of holder with 1/2-inch micrometer screw and measuring rods.

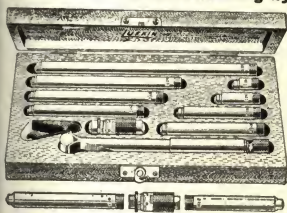
Ends of rods are hardened, and may be adjusted to compensate for wear by loosening the lock nut and turning the screw with the hardened head one way or the other. Packed 1 in a box.

Price includes measuring rods and spacing collar.

No.	Each	264	265
Without Case	each	\$17.25	\$21.00
Case only	each	2.75	4.25
Number of Rods		6	10
Range	inches	2-8	2-12

Lufkin Chrome-Clad Inside Micrometers

For Measuring by 1000ths of an Inch



Extension tubes or rods are of steel tubing making the tool rigid and durable.

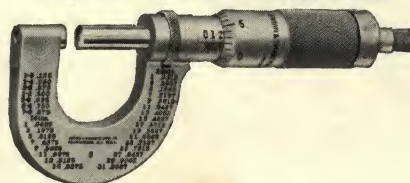
Nos. 680A and 680B have 1/2-inch movement of screw; Nos. 681C, 681D and 681K have 1-inch movement of screw. No. 6801D has both the 1/2-inch and 1-inch movement heads.

Each set is packed in a finished wooden box, as illustrated.

No.	Each	Range, Inches	No. Rods	Wt., Oz.
680A	\$19.50	1 1/2 to 8	5	8 1/2
680B	24.25	1 1/2 to 12	8	12
681C	27.50	4 to 24	7	27
681D	29.75	4 to 32	8	39
681K	36.25	4 to 40	10	48
6801D	45.00	1 1/2 to 32	10	56

No. 8 Brown & Sharpe Micrometer Calipers

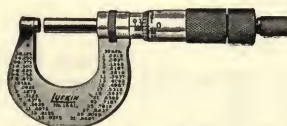
Range, 0 to 1 Inch by 1000ths of an Inch

**No. 8RS, with Ratchet Stop**

Furnished with clamp ring, which clamps spindle and preserves the setting; also furnished with case at \$1.85 extra. Packed 1 in a box.

No. 8, without Ratchet Stop.....each \$14.00

No. 8RS, with Ratchet Stop.....each \$14.75

Lufkin 1-Inch Chrome-Clad Micrometers**No. 1641**

Micro-lap mirror-like finish on anvil and spindle ends. Packed 1 in a box. Weight, 7 ounces.

For Measuring by 1000ths

No.	Description	Each
1611	Plain, without Lock Nut or Ratchet Stop...	\$12.75
1621	With Lock Nut, without Ratchet Stop.....	14.00
1641	With Lock Nut and Ratchet Stop.....	14.75

For Measuring by 10,000ths

1611V	Plain, without Lock Nut or Ratchet Stop...	\$15.25
1621V	With Lock Nut, without Ratchet Stop.....	16.50
1641V	With Lock Nut and Ratchet Stop.....	17.25

Lufkin 2-Inch Chrome-Clad Micrometer Calipers**No. 1642**

Micro-lap mirror-like finish on anvil and spindle ends. Box, 1. Wt. each, 10 oz.

For Measuring by 1000ths

No.	Description	Each
1612	Plain, without Lock Nut or Ratchet Stop...	\$14.25
1622	With Lock Nut, without Ratchet Stop.....	15.50
1642	With Lock Nut and Ratchet Stop.....	16.25

For Measuring by 10,000ths

1612V	Plain, without Lock Nut, or Ratchet Stop..	\$16.75
1622V	With Lock Nut, without Ratchet Stop.....	18.00
1642V	With Lock Nut and Ratchet Stop.....	18.75

Lufkin Chrome Clad Screw Thread Micrometers**Hardened Ground Thread**

For Measuring by 1000ths of an Inch



One-piece spindle. Furnished with swivel anvil but can be furnished with fixed anvil when specified. Spindle and anvil ends shaped to conform with standard angle of threads. Direct reading gives pitch diameter, which equals outside basic diameter less depth of one thread. Furnished for V or U.S. Std. threads. Packed 1 in a box.

Capacity, 1 Inch				Capacity, 2 Inches			
No.	Each	Range Threads per Inch	Wt. Oz.	No.	Each	Range Threads per Inch	Wt. Oz.
611T	\$17.75	8-13	8	612T	\$23.75	4 1/2- 7	10
611T	17.75	14-20	8	612T	23.75	8 -13	10
611T	17.75	22-30	8	612T	23.75	14 -20	10
611T	17.75	32-40	8	612T	23.75	22 -30	10

Starrett Micrometer Calipers

No-Glare Satin Chrome Finish



No. 230

For measurement by 1,000ths to 1 inch. Has lock nut and ratchet stop.

No. 230, with Tapered Frame.....each \$14.75
No. 230, with Case.....each 16.60

No. 202

For measurement by 1,000ths to 1 inch.
Has ratchet stop but no lock nut.

No. 202, with Tapered Frame.....each \$13.50
No. 202, with Case.....each 15.35

No. 2

For measurement by 1,000ths from 1 to 2 inches.
With lock nut, ratchet stop, and 1-inch test gage.

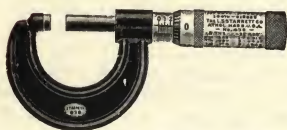
No. 2, with Tapered Frame.....each \$16.25
No. 2, with caseeach 18.75

No. 232

For measurement by 1,000ths to 1/2 inch.
Has lock nut and ratchet stop.

No. 232, with Tapered Frame.....each \$12.50
No. 232, with Case.....each 14.30

No. 436 Starrett Micrometer Calipers



Satin-chrome finish of thimble and sleeve protect against rust or stain. Non-glare. Black enameled frame. In thousandths; 0 to 24 in. Hardened and ground threads.

Size In.	Range In.	Without Ratchet No. Lock Nut Each	With Ratchet No. Lock Nut Each	With Lock Nut No. Ratchet Each	With Ratchet with Lock Nut Each	Standards Extra Each	Case Extra Each
1	0-1	\$9.25	\$10.00	\$10.50	\$11.25	.....	\$1.85
2	1-2	10.50	11.25	11.75	12.50	\$1.50	2.50
3	2-3	11.50	12.25	12.75	13.50	2.00	4.50
4	3-4	12.75	13.50	14.00	14.75	2.50	5.25
5	4-5	14.25	15.00	15.50	16.25	3.00	6.00
6	5-6	15.25	16.00	16.50	17.25	3.50	7.25
7	6-7	16.50	17.25	17.75	18.50	3.75	*
8	7-8	18.25	19.00	19.50	20.25	4.00	*
9	8-9	19.75	20.50	21.00	21.75	4.25	*
10	9-10	21.25	22.00	22.50	23.25	4.50	*
11	10-11	22.75	23.50	24.00	24.75	4.75	*
12	11-12	24.00	24.75	25.25	26.00	5.00	*
13	12-13	.....	.....	.....	30.75	5.50	*
14	13-14	.....	.....	.....	32.50	6.00	*
15	14-15	.....	.....	.....	34.25	6.50	*
16	15-16	.....	.....	.....	37.75	7.00	*
17	16-17	.....	.....	.....	41.00	7.50	*
18	17-18	.....	.....	.....	44.50	8.00	*
19	18-19	.....	.....	.....	48.00	8.50	*
20	19-20	.....	.....	.....	53.00	9.25	*
21	20-21	.....	.....	.....	58.00	10.00	*
22	21-22	.....	.....	.....	63.00	10.50	*
23	22-23	.....	.....	.....	68.00	11.00	*
24	23-24	.....	.....	.....	73.00	11.50	*

*Sent in finished wood case without extra charge.

.0001-inch graduations available on micrometers with ratchet stop and lock nut in sizes from 1 to 6 in. incl., \$2.50 extra. Friction thimble furnished for same price as ratchet stop.

STARRETT TOOLS

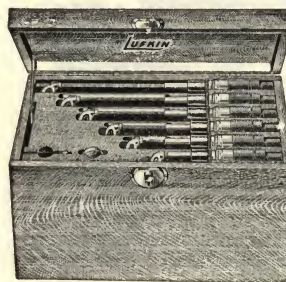
Only part of our very extensive stock of **Starrett Tools** is illustrated in this general catalog.

Upon receipt of either a phone call or letter, a complete Starrett Catalog will be sent to you.

You can buy any article in the **STARRETT CATALOG** from us.

Lufkin Chrome Clad Micrometer Caliper Sets

In Wood Cases
Hardened Ground Thread—Rapid Reading
For Measuring by 1,000ths of an Inch



Micrometers have the rapid reading feature which consists of numbering each thousandth graduation on the sleeve instead of every five thousandths. In this way confusion and possibilities of error in reading the micrometers are eliminated. By merely adding the number of thousandths, as shown by the figures on the sleeve, to the last twenty-five thousandths line on the hub, a rapid and accurate reading is obtained.

Cases are of finished wood, with hinged cover and clasp. All sets sent with test gages unless otherwise ordered

0 to 3-Inch

Enameled, Medium Weight, Ribbed Frame

Sets contain 3 micrometers, one each of the following: 1, 2 and 3-inch.

Set No.	With Test Gages Per Set	Without Test Gages Per Set	Description	Set Includes Micrometers, Nos.
181A	\$40.75	\$37.25	Plain.....	1811, 1812, 1813
182A	44.50	41.00	With Lock Nut.....	1821, 1822, 1823
183A	43.00	39.50	With Ratchet Stop....	1831, 1832, 1833
184A	46.75	43.25	With Lock & Ratchet.	1841, 1842, 1843

0 to 3-Inch

Enameled, Heavy, Ribbed Frame

Set contains 3 micrometers, one each of the following: 1, 2 and 3-inch.

Set No.	With Test Gages Per Set	Without Test Gages Per Set	Description	Set Includes Micrometers, Nos.
191A	\$40.75	\$37.25	Plain.....	1911, 1912, 1913
192A	44.50	41.00	With Lock Nut.....	1921, 1922, 1923
193A	43.00	39.50	With Ratchet Stop....	1931, 1932, 1933
194A	46.75	43.25	With Lock & Ratchet.	1941, 1942, 1943

0 to 4-Inch

Enameled, Heavy, Ribbed Frame

Set contains 4 micrometers, one each of the following: 1, 2, 3 and 4-inch.

Set No.	With Test Gages Per Set	Without Test Gages Per Set	Description	Set Includes Micrometers, Nos.
191B	\$58.50	\$52.50	Plain.....	{ 1911, 1912, 1913, 1914
192B	63.50	57.50	With Lock Nut.....	{ 1921, 1922, 1923, 1924
193B	61.50	55.50	With Ratchet Stop....	{ 1931, 1932, 1933, 1934
194B	66.50	60.50	With Lock & Ratchet.	{ 1941, 1942, 1943, 1944

0 to 6-Inch

Enameled, Heavy, Ribbed Frame

Sets contain 6 micrometers, one each of the following: 1, 2, 3, 4, 5 and 6-inch.

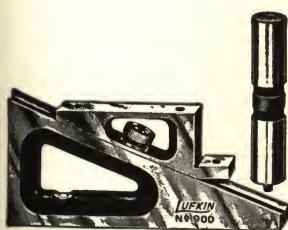
Set No.	With Test Gages Per Set	Without Test Gages Per Set	Description	Set Includes Micrometers, Nos.
191C	\$96.75	\$84.25	Plain.....	{ 1911, 1912, 1913, 1914, 1915, 1916
192C	104.25	91.75	With Lock Nut.....	{ 1921, 1922, 1923, 1924, 1925, 1926
193C	101.25	88.75	With Ratchet Stop....	{ 1931, 1932, 1933, 1934, 1935, 1936
194C	108.75	96.25	With Lock & Ratchet	{ 1941, 1942, 1943, 1944, 1945, 1946

Test gages are supplied with all the above sets unless otherwise specified.

Any of the above sets can be supplied with micrometers measuring to ten thousandths of an inch at an extra charge of \$7.50 for sets of three, \$15.00 for sets of six. Specify by suffix V, as Set No. 181V-A, etc.

Any of the above sets can be supplied with metric micrometers at a price the same as the corresponding sets in inches. Specify by suffix M, as Set No. 181M-A, etc.

No. 900 Lufkin Master Planer and Shaper Gages



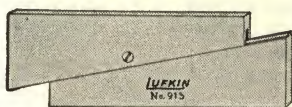
Range is from $\frac{1}{4}$ inch to $6\frac{1}{2}$ inches; furnished with 3-inch extension, range from $\frac{1}{4}$ inch to 9 inches. Slide travels in ground beveled slot. Slide and base are accurately fitted so tool can be used as a sliding parallel within its limits. Gage can be used on base and end or flat on its side.

Base and slide are made from drop-forged steel, hardened and ground. Base is $\frac{5}{8}$ inch thick, $5\frac{1}{8}$ inches long, and fitted with level. Packed 1 in a box. Weight, 22 ounces.

No. 900.....	each	\$14.90
1-Inch Extension for Adding an Even Inch.....	each	1.25
Mahogany Case.....	each	1.75

Series 915 Lufkin Adjustable Parallels

Size Range, $\frac{3}{8}$ to $2\frac{1}{4}$ Inches



For use in layout, gaging, spacing and checking work, by toolmakers and mechanics. Readily adjusted and locked to micrometer measurement. Often used to determine or check width of slots and openings, also as spacers for locating parts for accurate assembly. Can be used as gages when set to a given size. Employed in vise for setting work at proper height or angle for milling machine, shaper and planer, also for leveling work on planer, drill press, etc. Sliding action in the dovetail slot is smooth. Screw provides firm lock. Sizes A, B and C have one lock screw, while sizes D, E and F have two screws. Thickness of all sizes is $\frac{9}{32}$ inch.

Packed one in a box.

Individual Adjustable Parallels

No.....	915A	915B	915C	915D	915E	915F
Each.....	\$1.50	1.70	1.90	2.40	2.90	3.40
Range...in.	$\frac{3}{8}$ — $1\frac{1}{2}$	$1\frac{1}{8}$ — $1\frac{1}{16}$	$1\frac{1}{16}$ — $1\frac{5}{16}$	$1\frac{5}{16}$ — $1\frac{15}{16}$	$1\frac{15}{16}$ — $1\frac{3}{4}$	$1\frac{3}{4}$ — $2\frac{1}{4}$
Length...in.	$1\frac{3}{4}$	$2\frac{1}{8}$	$2\frac{1}{16}$	$3\frac{3}{16}$	$4\frac{3}{16}$	$5\frac{1}{16}$

Sets

No. 915L. Complete set of six parallels. Range $\frac{3}{8}$ to $2\frac{1}{4}$ inches. Includes one each of Nos. 915A, B, C, D, E and F parallels. In red leatherette case.

Packed one set in a box.

No. 915L......each \$15.60

No. 915M. Small set of four parallels. Range $\frac{3}{8}$ to $1\frac{5}{16}$ inches. Includes one each of Nos. 915A, B, C and D parallels. In red leatherette case.

Packed one set in a box.

No. 915M......each \$8.90

No. 902 Lufkin Hold Downs



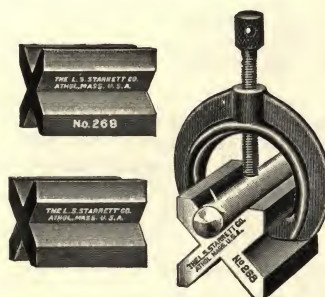
Designed to hold work securely and flat, without distorting in a vise or on a machine bed. Especially handy for holding thin work.

Made of steel, hardened and ground. Contact edges are slightly tapered and a clearance step is provided on the under side of the Hold Down.

All are made $\frac{25}{32}$ inch wide so that one or more of the sizes can be used together on long work.

No.....	902A	902B	902C	902D	902E
Per Pair.....	\$2.60	2.80	3.25	4.10	5.00
Size.....inches	2	3	4	5	6

No. 268 Starrett Drill Blocks and Clamps



Will hold a round piece up to $1\frac{1}{8}$ inches in diameter firmly in the groove of the blocks for prick punching, drilling or laying out a series of holes before and while being drilled.

Made of cast iron.

Blocks are $1\frac{1}{2}$ inches square and 2 inches long; furnished in pairs.

No. 268A, Two Drill Blocks.....	per pair	\$2.05
No. 268B, Clamp.....	each	.95
No. 268C, Set Complete.....	per set	3.00

No. 161 Starrett Toolmakers' Parallel Clamps



Made of steel, case hardened, useful for holding small work together in tapping, drilling, etc.

When ordering jaw only, state length desired.

Packed 1 pair in a box.

No.....	161AA	161A	161B	161C	161D	161E
Per Pair.....	\$2.40	2.90	3.30	4.00	4.60	8.20
Jaw Opens.....in.	$\frac{3}{4}$	$1\frac{1}{4}$	$1\frac{3}{4}$	$2\frac{1}{4}$	$2\frac{3}{4}$	$3\frac{1}{2}$
Length Jaw.....in.	$1\frac{5}{8}$	2	$2\frac{1}{2}$	3	4	5

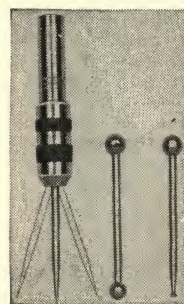
No. 162 Starrett Pin Vises



Hole extends full length of handle. Nickel-plated. Made of carbon tool steel.

No.....	162A	162B	162C	162D
Each.....	\$.90	.90	.90	1.10
Cap....in.	.0 to .040	.030 to .062	.050 to .125	.115 to .187
Wt....oz.	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$	3
No. 162, Comp. Set, 1 of Ea. Size, Wt. 3 oz....per set				\$3.80
Case, Extra.....				ea. .40

No. 828 Starrett Wigglers or Center Finders



For jig and tool work, locating working points in milling and vertical machines. Pointer is tensioned against spring so when guided to true concentricity, work is brought to perfect alignment with machine spindle. Screw in back of shank varies tension on ball of point. Point is protected by telescoping into body when not in use.

Length when closed, $2\frac{3}{8}$ inches; when open, $4\frac{1}{8}$ inches; shank diameter, $\frac{3}{8}$ inch.

Ball contact B (ball diameter, .250-inch) permits contact with work and figuring diameter, etc., locates work

to desired position.

Part C, with the small disc at end, .100-inch diameter, permits use in more confined areas, in slots, shallow holes, etc.

Packed 1 set in a box.

No. 828-A, Shank with Point.....	each	\$1.35
No. 828-B, Ball Contact Only.....	each	.50
No. 828-C, Disc Contact Only.....	each	.50
No. 828, Complete with A, B and C.....	each	2.35

Starrett Center Gages



Used in grinding and setting screw cutting tools. Graduated in 14ths, 20ths, 24ths and 32nds of inch, except No. 398, which is graduated in mm. and $\frac{1}{2}$ mm. Graduations are useful in finding number of threads to inch.

Packed 6 in box.

No. 391. U.S. Standard, 60°; Spring Tempered...each \$.80

No. 396. Whitworth Standard, 55°; Spring Tempered...each .80

No. 398. Metric, 60°; Spring Tempered...each .80

No. 392 Starrett Center Gage Attachments



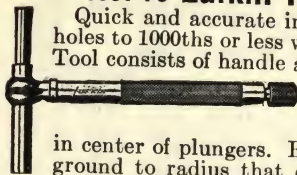
V block with a slot above the V, for holding center gage against a lathe spindle or face plate.

For both external and internal work.

Packed 3 in a box.

No. 392...each \$.80

No. 79 Lufkin Telescoping Gages



Quick and accurate inside measurements of slots or holes to 1000ths or less with aid of outside micrometer. Tool consists of handle and two plungers, one telescoping into other which can be locked by turn of knurled screw. Handle can be locked in center of plungers. Ends of plungers hardened and ground to radius that clears in smallest hole it will enter. Packed 1 gage or set in box.

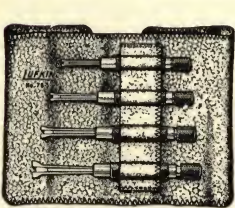
No.	79AA	79A	79B	79C	79D	79E
Each	\$2.75	2.75	3.20	3.60	4.50	5.50
Range..in.	$\frac{5}{16}$ – $\frac{1}{2}$	$\frac{1}{2}$ – $\frac{3}{4}$	$\frac{3}{4}$ – $1\frac{1}{4}$	$1\frac{1}{4}$ – $2\frac{1}{8}$	$2\frac{1}{8}$ – $3\frac{1}{2}$	$3\frac{1}{2}$ –6

No. 79L Set, One Each of Nos. 79AA, 79A, 79B, 79C, 79D, 79E in Leatherette Folder; Range, $\frac{5}{16}$ to 6 In...each \$24.10

No. 79M Set, One Each of Nos. 79AA, 79A, 79B and 79C in Leatherette Folder; Range, $\frac{5}{16}$ to $2\frac{1}{8}$ In...ea. 13.50

No. 79X Set, with 10-Inch Handle; Range, $2\frac{1}{16}$ to $4\frac{3}{32}$ Inches...each 7.50

No. 78S Lufkin Small Hole Gage Sets



Designed to permit gaging shallow holes or grooves.

Size of ball end is adjusted by turning knurled knob at opposite end of gage, and change in size of ball end is almost proportional to movement of knob, which aids in getting proper feel and setting.

Made of special analysis steel with hardened ball ends. Travel of expanding cone is stopped at both extreme open and closed limits of gage, preventing breakage. Packed 1 set in a box. Contents:

No. of Gage	78A	78B	78C	78D
Each	\$2.70	2.80	2.90	3.00
Range.....in.	$\frac{1}{8}$ – $\frac{3}{16}$	$\frac{3}{16}$ – $\frac{1}{4}$	$\frac{1}{4}$ – $\frac{3}{8}$	$\frac{3}{8}$ – $\frac{1}{2}$

No. 78S, Complete in Red Leatherette Case...per set \$12.60

No. 71 Starrett Thickness Gages With Locking Device

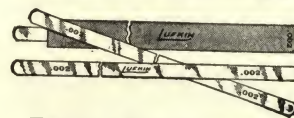
Contains leaves: .0015, .002, .003, .004, .006, and .015. This combination permits adjustment of tappets on motors and the gaging of slots from .0015 to .031 inch. Leaves fold in a metal case.

No. 71...each \$1.50



No. 10 Lufkin Universal Feeler Stock In 1-Foot Pieces

Used in determining clearance of tappets, fitting pistons, adjusting spark gap, ring groove clearance, gear play, etc.



Also employed by tool-makers and machinists, and in experimental work.

Stock is $\frac{1}{2}$ inch wide. Both ends rounded and marked with its thickness.

Twelve 1-foot pieces of one thickness in a box, each piece in an individual envelope.

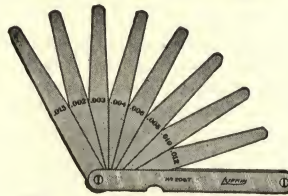
Thick. In.	Per Foot	Thick. In.	Per Foot	Thick. In.	Per Foot	Thick. In.	Per Foot
.001	\$.92	.006	\$.33	.012	\$.27	.019	\$.27
.0015	.46	.007	.27	.013	.27	.020	.27
.002	.46	.008	.27	.014	.27	.021	.27
.0025	.46	.009	.27	.015	.27	.022	.27
.003	.46	.010	.27	.016	.27	.023	.27
.004	.33	.011	.27	.017	.27	.024	.27
.005	.33	....	....	.018	.27	.025	.27

No. 10 Assortments

Consists of 9 boxes of twelve 1-foot pieces per box, one box each of the following thicknesses: .0015, .002, .003, .004, .006, .008, .010, .012, and .015 inch.

No. 10...per assortment \$37.50

Lufkin 8-Leaf Thickness Gauges



Leaves fold into a regular case. Patent lock makes possible the locking of any leaf in any position.

Tapered leaves are of tempered steel, ground to exact thickness.

Thicknesses: .002, .003, .004, .006, .008, .010, .012 and .015 inch.

Packed one in a box.

No. 208T

Leaves, $4\frac{1}{2}$ inches long, $\frac{1}{2}$ inch wide at base; tapered to $\frac{1}{4}$ inch. Overall length of gauge with leaf extended and locked, 9 inches. Weight each, $1\frac{1}{2}$ ounces.

No. 208T...each \$4.00

No. 308T

Leaves, 6 inches long, $\frac{1}{2}$ inch wide at base; tapered to $\frac{1}{4}$ inch. Overall length of gauge with leaf extended and locked, 12 inches. Weight each, 2 ounces.

No. 308T...each \$5.00

No. 178 Starrett Fillet or Radius Gages With Locking Device



This gage may also be described as a concave and convex gage, and is especially adapted for use in laying out special forming tools, dies, etc., as well as for measuring fillets.

Recommended for use by machinists, toolmakers, and screw machine operators, as well as pattern makers.

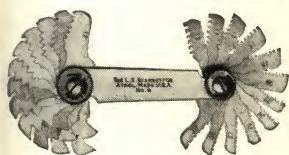
Size A has 30 leaves stamped to indicate radii by 64ths from $\frac{1}{32}$ to $\frac{1}{4}$ inch (one-half diametric size). Diameters are from $\frac{1}{16}$ to $\frac{1}{2}$ inch varying by 32nds.

Size B is made with 32 leaves stamped to indicate radii by 64ths, from $\frac{1}{64}$ to $\frac{1}{2}$ inch. Diameters are from $\frac{1}{32}$ to 1 inch, varying by 32nds.

No. 178A, Weight 1 Ounce...each \$2.50

No. 178B, Weight 4 Ounces...each 3.00

Starrett Screw Pitch Gages With Locking Device No. 4



Can be used inside of a nut or on outside of a screw or bolt. Also used as a 60-degree center gage and gage to test the grinding of either an inside or outside threading tool.

Has the following pitches: 4, 4½, 5, 5½, 6, 7, 8, 9, 10, 11, 11½, 12, 13, 14, 15, 16, 18, 20, 22, 24, 26, 27, 28, 30.

No. 4.....each \$2.60

No. 6

Of the same form as No. 4. Has 30 pitches as follows: 4, 4½, 5, 5½, 6, 7, 8, 9, 10, 11, 11½, 12, 13, 14, 15, 16, 18, 20, 22, 24, 26, 27, 28, 30, 32, 34, 36, 38, 40 and 42.

No. 6.....each \$3.00

Starrett Stop Screw Pitch Gages



Positive stop holds leaves in fixed and convenient position for use. Number of the pitch is stamped on the right side of each leaf.

Packed 1 in a box; 6 boxes to a carton.

No. 473

Has 11½ and 27 pipe thread pitches and 30 pitches, V thread, as follows: 6, 7, 8, 9, 10, 11, 11½, 12, 13, 14, 15, 16, 18, 20, and 22 in one end of the case; 24, 26, 27, 28, 30, 32, 34, 36, 38, 40, 42, 48, 50, 56, and 60 in the other.

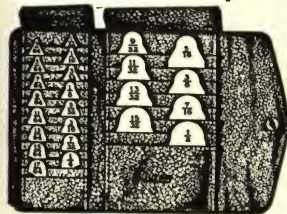
No. 473.....each \$3.10

No. 475

Similar to No. 473 but larger and has 26 coarse pitches. V thread as follows: 3½, 4, 4½, 5, 5½, 6, 7, 8, 9, 10, 11, 11½, and 12 in one end of the case; 13, 14, 15, 16, 18, 20, 22, 24, 26, 27, 28, 30, and 32 in the other.

No. 475.....each \$2.60

Lufkin Improved Radius Gages



Gage

Packed 1 set in a box.

No. 77A

Has 16 gages, marked to indicate radii from 1/32 to 17/64 inch by 64ths.

No. 77A, with Leatherette Case.....each \$5.90

No. 77B

Has 8 gages, marked to indicate radii from 3/32 to 1/2 inch by 32nds.

No. 77B, with Leatherette Case.....each \$4.20

No. 77C

Has 24 gages, marked to indicate radii from 1/32 to 17/64 inch by 64ths and from 3/32 to 1/2 inch by 32nds.

No. 77C, with Leatherette Case.....each \$9.70

No. 77D

Has 16 gages, marked to indicate radii from 1/32 to 1/2 inch by 32nds.

No. 77D, with Leatherette Case.....each \$7.20

No. 77E

Has 8 gages, marked to indicate radii from 3/16 to 1 inch by 16ths.

No. 77E, with Leatherette Folder.....each \$40.00

Extra Gages for Above Sets

1/64 Inch.....each \$1.20

From 1/32 to 17/64 Inch.....each .60

From 9/32 to 1/2 Inch.....each .70

From 5/16 to 1 Inch.....each 5.00

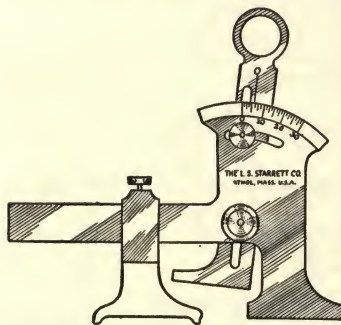
No. 20 Holders Only for Radius Gage

No. 20.....each \$1.15



Holder Only

No. 459 Starrett Cutter Clearance Gages



Checks clearances from 1/2 to 2 inches in diameter and accurately checks clearance on cutters from 2 to 30 inches or more in diameter on end, side, spiral, helix and inserted teeth milling cutters.

Upright blade is perpendicularly and angularly adjustable and each clamping action is independent.

Packed 1 in a box.

No. 459.....each \$22.50

No. 459, with Leather Case.....each 26.00

No. 22C Starrett Drill Point Gages With 6-Inch Hook Rule



For assisting in grinding drill points accurately. Sharpen cutting edges one at a time. Each lip must be the same length, and also have same angle in relation to the axis of the drill. Used as a drill point gage, hook rule, plain rule, depth gage, try square, and slide caliper.

Blades graduated in 8ths, 16ths, 32nds, and 64ths.

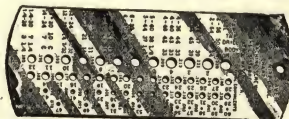
Packed 1 in a box.

No. 22C, Complete.....each \$4.20

No. 22D, Sliding Graduated Head.....each 2.00

No. 185 Starrett Tap and Drill Gages

Enables one to select at once the right sized drill to suit the machine screw taps most commonly used.



Approximately 5/64 inch thick, 25/16 inches wide, and 6 1/4 inches long.

Packed 3 in a box.

No. 185.....each \$4.30

No. 588 Starrett Handy Ready Reference Tables

With Rule

Spring Steel, Quick Reading

Handy for toolmakers and machinists.

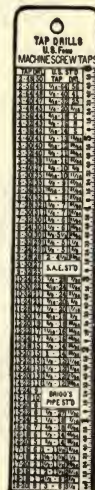
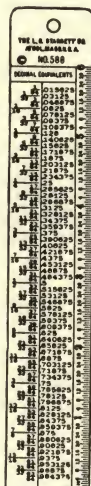
Size, 6 3/4 inches long, 1 1/4 inches wide and 2/100ths inch thick.

Has decimals, fractions and 6-inch rule with 32nds divisions on one side and tap and drill data and 6-inch rule with 64ths divisions on the other.

The 32nds divisions marked every 4, 8, 12, etc., lines; the 64ths, divisions marked every 8, 16, 24, etc., lines.

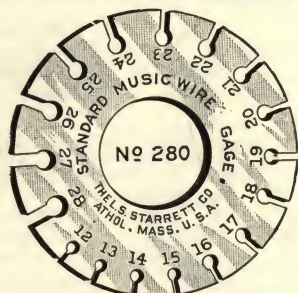
Quick reading feature on both sides.

The rule is incorporated so that no turning end for end is necessary—32nds or 64ths always in the natural position.



No. 588.....each \$1.65

No. 280 Starrett Steel Music Wire Gages



A.S. & W. Co. standard. Numbers 12 to 28.

Each gage has a bright finish and is carefully tested after hardening. Packed 2 in a box.

No. 280.....each \$2.75

No. 282 Starrett American Standard Wire Gages



Useful for gaging sheets, plates and wire of non-ferrous metal, such as copper, brass, aluminum, etc., also for electricians' use.

Carefully tested after hardening.

Ranges from Nos. 5 to 36.

Approximate decimal equivalents are stamped on the reverse side.

Black finish.

Packed 2 in a box.

No. 282.....each \$3.75

No. 283 Starrett United States Standard Gages



For uncoated sheet and plate iron and steel, based on weights in ounces per square foot.

The decimal equivalents of each number stamped on reverse side.

Each gage is black finish and is carefully tested after hardening.

Numbers 0 to 36.

Packed 2 in a box.

No. 283.....each \$4.50

No. 287 Starrett Wire Gages



For gaging steel wire and drill rod.

Washburn & Moen standard. Numbers 0 to 36. U. S. steel wire gage.

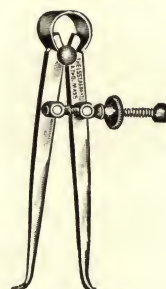
The decimal equivalents of the numbers are stamped on the back.

Each gage has black finish and is carefully tested after hardening.

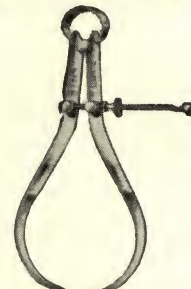
Packed 2 in a box.

No. 287.....each \$4.50

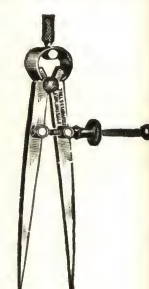
Starrett Yankee Spring Calipers and Dividers



No. 73, Inside Caliper



No. 79, Outside Caliper



No. 83, Dividers

Reliable, lightweight calipers and dividers. Equipped with solid nut or quick adjusting nut.

Furnished with solid nut unless otherwise specified.

Packed 3 in a box. Specify No. and size.

With Solid Nut

Size...in.	2 1/2	3	4	5	6	8	10	12
Each....	\$1.90	2.00	2.10	2.20	2.40	2.75	3.70	4.15

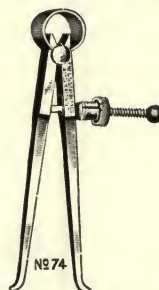
With Spring Nut

Size...in.	2 1/2	3	4	5	6	8	10	12
Each....	\$2.25	2.35	2.45	2.55	2.75	3.10	4.05	4.50

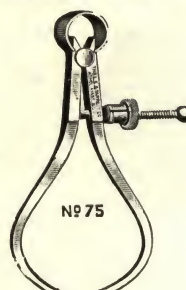
Duplicate Parts

Screw and Ball.....	each	\$.40
Thumb Attachment (No. 83 Only).....	each	.40
Solid Nut.....	each	.30
Spring Nut.....	each	.65
Leg (Right).....	each	.55
Spring.....	each	.55
Jam Washer.....	each	.25
Fulcrum Stud.....	each	.30
Leg (Left) with Screw Attached.....	each	.90

Starrett Fay Spring Calipers and Dividers



No. 74, Inside



No. 75, Outside



No. 77, Dividers

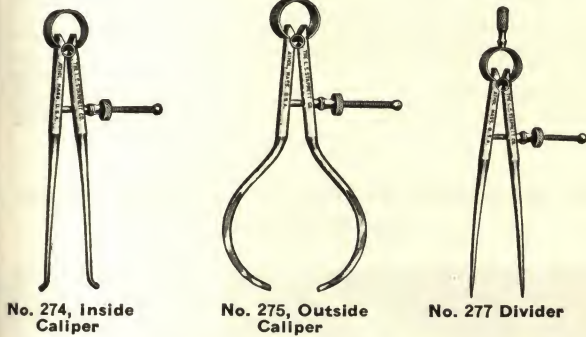
Quick-adjusting, automatic closing spring nut. Thread engages screw at slightest pressure when leg comes in contact with nut; when pressure is withdrawn, it releases itself immediately, sliding freely on screw. Will save much valuable time in opening and closing springbow calipers and dividers. Also made with solid nut. With spring nut unless otherwise specified. Packed 2 in box.

Size.....	inches	3	4	5	6
Nos. 74 and 75, Solid Nut.....	each	\$2.20	\$2.50	\$2.70	\$2.90
Nos. 74 and 75, Spring Nut.....	each	2.55	2.85	3.05	3.25
No. 77, Solid Nut.....	each	2.20	2.50	2.70	2.90
No. 77, Spring Nut.....	each	2.55	2.85	3.05	3.25

Duplicate Parts

Screw and Ball.....	each	\$.40
Thumb Attachment (No. 77 Only).....	each	.40
Solid Nut.....	each	.30
Spring Nut.....	each	.65
Leg, Right.....	each	.60
Spring.....	each	.55
Jam Washer.....	each	.25
Fulcrum Stud.....	each	.30
Leg, Left, with Screw Attached.....	each	.95

Starrett Toolmakers' Spring Calipers and Dividers



These calipers and dividers are made from round stock with legs drawn down, making them tough and rigid. The fulcrum stud is hardened, bows extra strong, screw and nut nicely fitted, all highly finished. Made from carbon tool steel. Made with solid nut only. Packed 2 in a box.

Size.....inches	2	3	4	5	6
Each.....	\$1.80	2.30	2.75	3.00	3.20
Weight....ounces	1½	1	1½	2	3

Duplicate Parts

Screw and Ball.....	each	\$.40
Nut, Solid.....	each	.30
*Spring with Thumb Attachment.....	each	.75
Jam Washer.....	each	.25
Leg (Right).....	each	.60
Leg (Left) with Screw Attached.....	each	.95
Fulcrum Stud.....	each	.30

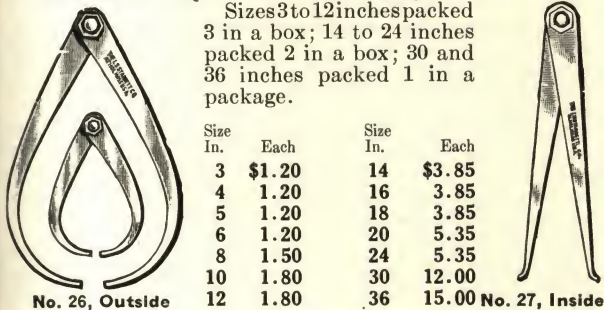
*For No. 277 dividers only.

Starrett Firm Joint Calipers

The joint is constructed so as to be drawn together by means of a screw, insuring a smooth and uniform friction of more or less tension to suit the user.

No. 27 inside calipers are not made larger than 24 in.

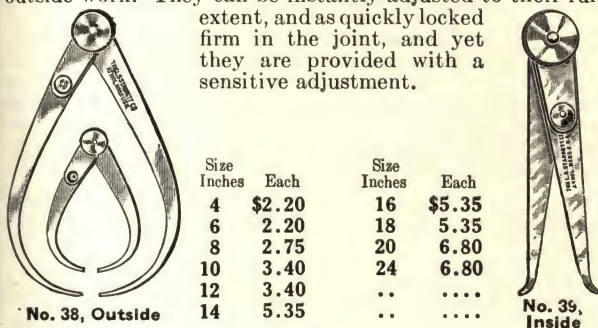
Sizes 3 to 12 inches packed 3 in a box; 14 to 24 inches packed 2 in a box; 30 and 36 inches packed 1 in a package.



Size In.	Each	Size In.	Each
3	\$1.20	14	\$3.85
4	1.20	16	3.85
5	1.20	18	3.85
6	1.20	20	5.35
8	1.50	24	5.35
10	1.80	30	12.00
12	1.80	36	15.00

Starrett Lock-Joint Calipers

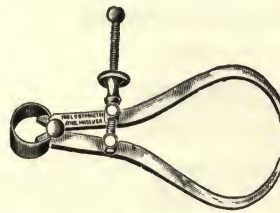
Lock-joint calipers have wide scope for both inside and outside work. They can be instantly adjusted to their full extent, and as quickly locked firm in the joint, and yet they are provided with a sensitive adjustment.



Size Inches	Each	Size Inches	Each
4	\$2.20	16	\$5.35
6	2.20	18	5.35
8	2.75	20	6.80
10	3.40	24	6.80
12	3.40	..	....
14	5.35	..	....

No. 179 Starrett Outside Thread Calipers

Suitably shaped points. Furnished with solid nut. Packed 3 in a box.

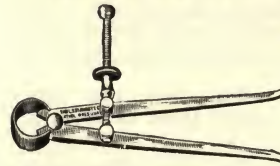


Size.....in.	4	6
No. 179. each	\$2.30	2.60

No. 184 Starrett Inside Thread Calipers

Has suitably shaped points to work in threads.

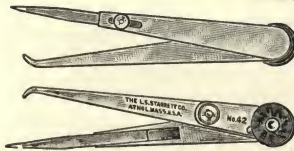
Furnished with solid nut.



Lgth.....in.	4	6
No. 184. each	\$2.30	2.60

No. 42 Starrett Lock-Joint Hermaphrodite Calipers

Has adjustable point, lock joint and sensitive adjustment. Made of carbon tool steel.



Size...in.	4	6	8
Each....	\$2.00	2.30	2.85
Wt....oz.	2	3½	5

No. 243 Starrett Firm Joint Hermaphrodite Calipers

This tool is made with an offset leg which retains an adjustable round point. Made in 4 and 6-inch sizes only.



Length.....inches	4	6
No. 243.....each	\$1.25	1.50

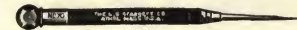
No. 67 Starrett Scribes



All parts are interchangeable. The knurled sleeve is nicked. Packed 6 in a box.

No. 67, Complete.....	each	\$1.15
No. 67, without Long Point.....	each	.85

No. 70 Starrett Pocket Scribes



Scriber is reversible, telescoping into stock and is held by a slight turn of chuck. Made of carbon tool steel.

No.....	70A	70B
Each.....	\$.70	.75
Diameter Handle.....inches	1¼	¾
Length Blade.....inches	2¾	2⅞
Weight.....ounces	1	1½

No. 50 Starrett Improved Trammel Points

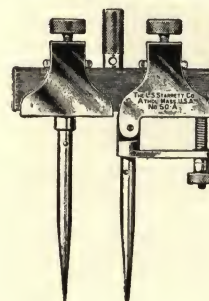
Made of bronze metal, with forged steel points, hardened.

Either point can be removed, and the pencil socket accompanying each pair put in its place.

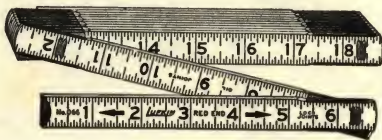
The bar shown in illustration, holding pencil socket in center with frames at each end, is similar to what would be used as a beam in using this tool, but is only long enough to permit easy packing in the tool chest, as well as in shipping.

Nickel-plated finish.

No. 50A will be furnished unless otherwise ordered.



No. 50A, with 3-Inch Points, Adjustable.....	each	\$5.25
No. 50B, with 3-Inch Points, Not Adjustable.....	each	3.40
No. 50C, Extra Long Points, 5 Inches.....	per set	1.00

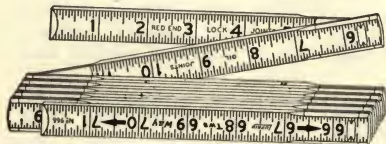
Lufkin Red End Spring Joint Rules6-Inch Folds— $\frac{5}{8}$ -Inch Wide

Lock joints and strike plates made of brass. Snow white enamel finish protected by durable plastic coating.

Marked consecutive inches to 16ths, both edges, both sides. Can be furnished with the patent folding hook.

Folded 6 in box.

No.....	064	065	066	068
Per Dozen.....	\$15.60	16.80	18.00	25.20
Length.....feet	4	5	6	8
Weight per Dozen.....pounds	2 $\frac{1}{4}$	2 $\frac{3}{4}$	3 $\frac{1}{2}$	4 $\frac{1}{2}$

No. 066F Lufkin Red End Spring Joint Rules With Inside Markings

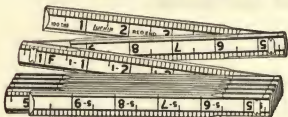
Made of flexible hardwood; rust-proof. Concealed joints of solid brass; brass strike plates on each section. Ends brass capped. Patented lock joints aid in maintaining accuracy.

Width, $\frac{5}{8}$ inch. Length, 6 feet, with 6-inch folds. Has flat markings (numbering commences on inside face). Measurement lies close to work even when rule is but partly open. Marked in consecutive inches to 16ths, both edges of both sides.

Finished in durable white enamel, protected by a tough clear plastic coat, with red ends.

Packed 6 in a box. Weight per dozen, 3 $\frac{1}{2}$ pounds.

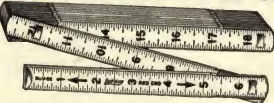
No. 066F, 6-Foot.....per dozen \$18.00

No. 066D Lufkin Red End Rules

Marked one side in feet, 10ths, and 100ths; other side in feet, inches, and 16ths. Brass lock joints and strike plates.

Length, 6 feet. White enamel finish protected by a tough clear plastic coat, and bright red ends. Packed 6 in a box. Weight per dozen, 3 $\frac{1}{2}$ pounds.

No. 066D.....per dozen \$21.00

No. V-66 Lufkin Vertical Red End Rules

With outside vertical markings, marked consecutive inches to 16ths, both edges of both sides. Brass strike plates; brass mountings; patented lock joints of flexible hardwood, white enameled finish protected by a tough clear plastic coat, gloss red ends; $\frac{5}{8}$ -inch wide; 6-inch folds; 6 feet long.

No. V-66, 6 to Box; Wt. per Doz., 3 $\frac{1}{2}$ Lb....per doz. \$18.00

No. 966 Lufkin 2-Way Red End Rules

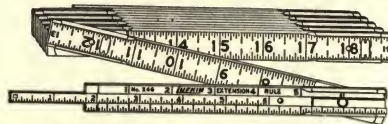
The 2-way is adapted to measuring left to right and right to left. With it, when measuring distances longer than the rule, the balance of the space, completing the measurement, is found by simply turning over the rule, and still all figures are right side up. This 2-way feature also makes it convenient for measuring right and left out of corners.

Brass trimmings, strike plates prevent wear, white enamel finish protected by a tough clear plastic coat, and bright red ends. Marked consecutive inches to 16ths on both edges of both sides; has 6-inch folds; is $\frac{5}{8}$ inches wide and 6 feet long.

Packed 6 in a box.

Weight per dozen, 3 $\frac{1}{2}$ pounds.

No. 966.....per dozen \$18.00

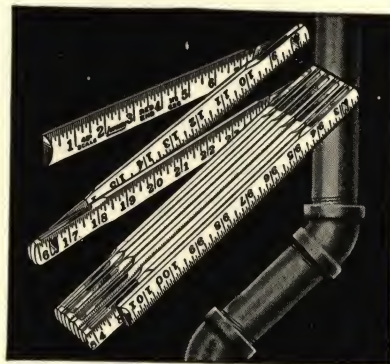
Lufkin Folding Extension Rules

A 6-foot rule with 6-inch brass extension slide.

Width, $\frac{5}{8}$ in. Marked inches to 16ths.

No. X-46, without Hook.....per dozen \$27.00

No. HX-46, with Hook.....per dozen 28.80

No. 626 Lufkin Plumbers' and Steamfitters' Red End Rules

Specially marked for pipefitting work. Also suitable for general measuring.

Bears standard measurements in black. Corresponding 45° lengths in red.

Has solid brass strike plates and joints, rustproof, smooth working. Lock joints reduce end play, maintain accuracy.

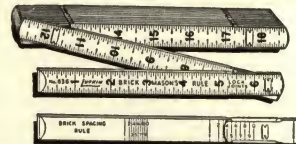
Sections are of

hardwood, straight grain, tough, flexible.

Snow-white enamel finish protected by a tough clear plastic coat. Ends in bright, gloss red.

Packed 6 in a box. Weight per dozen, 3 $\frac{1}{2}$ pounds.

No. 626, 6-Foot Rule.....per dozen \$21.00

No. 636 Lufkin Masons Red End Rules

For fast, easy scaling or brick courses when either mortar thickness is known or when space only is known by simply turning from standard inch side to masons scale on opposite side of rule.

Hard white maple rule is $\frac{5}{8}$ inch wide, 6-inch white enameled folds. Has brass strike plates and mountings, patent lock joints and red ends. Vertical figures, marked consecutive inches to 16ths, both edges of one side in black; masons scale other side in red. White enamel finish protected by a tough clear plastic coat.

Packed $\frac{1}{2}$ dozen in a box. Weight per dozen, 3 pounds.

No. 636, 6 Feet.....per dozen \$21.00

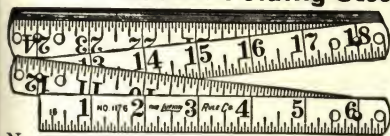
Lufkin Aluminum Rules

Rustproof; of aluminum, with brass, rivet type, spring joints. Surface is natural color; sunken graduations; black figures. Marked in consecutive inches in 16ths, both sides. Has 6-inch folds. Width, $\frac{5}{8}$ inch.

No.....	1206	*1206F
Per Dozen.....	\$32.40	32.40
Length.....feet	6	6
Weight per Dozen.....pounds	5	5

*Inside or flat markings (numbering commencing on inside face).

Lufkin Folding Steel Rules



Rule has lock joints; $\frac{3}{4}$ inch wide.

Marked both sides inches and 16ths.

No.	1172	1173	1174	1176	1178
Each	\$3.20	4.50	5.80	8.60	11.00
Length.....feet	2	3	4	6	8

Interlox Master Slide Rules

Telescopic Action



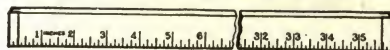
Specially designed to make inside measurements but makes a speedy, convenient outside measurement as well. It opens and closes like a telescope, and can be held straight out or straight up when open. Every stick is replaceable.

Made from the finest, select straight grain white maple and finished with a glass hard, friction-proof lacquer, light boxwood color. All joints and clips are solid brass. Graduated in 16ths. Inside measure wood.

Packed 6 in a box.

No.....	104	106	108	
Per Dozen.....	\$27.00	30.00	36.00	
Length.....	4	6	8	
Weight per Dozen.....	feet			
	pounds	2 $\frac{3}{4}$	4 $\frac{1}{8}$	5 $\frac{1}{2}$

No. 41 Stanley Yard Sticks



Made from maple, 1 inch wide. Graduated 8ths of inches on one side and fractions of yards on the other.

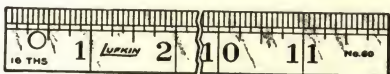
Has brass tips.

Packed 12 in a box.

Weight per dozen, 3 $\frac{3}{4}$ pounds.

No. 41	each	\$1.40
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No. 60 Lufkin Manual Training Steel Rules



Tempered steel rule graduated to 16ths, for school shop and other uses.

Marked upper edge of both sides; one side in 8ths, other side in 16ths.

Has sunken lines and figures in black, contrasting with the steel rule surface. Opposite sides read from reverse ends.

Width, $\frac{3}{4}$ inch; thickness, $\frac{1}{32}$ inch.

Hole in one end for hanging up.

When ordering, specify stock number and length.

Length	feet	1	1 $\frac{1}{2}$	2
No. 60	each	\$2.00	2.40	2.70
Weight	ounces	1 $\frac{1}{2}$	2 $\frac{1}{4}$	3

No. 96 Lufkin Steel Circumference Rules



Made of tempered steel $1\frac{1}{4} \times \frac{1}{16}$ inch. On one side this rule is marked on upper edge in standard measurement inches to 8ths, lower edge to 16ths. The other side of this rule is marked on upper edge in standard measurement inches to 16ths, lower edge in circumference inches to 8ths.

This rule also gives at a direct reading both the diameter and the corresponding circumference. Opposite sides read from same end.

Quarter inch hole at first end for hanging up. Medium weight.

Length	feet	3	4
Plain	each	\$7.00	\$9.00
Nickel Plated	each	8.40	10.40

Stanley Green End Zig Zag Rules



Made of selected highland young Vermont Rock maple, $\frac{5}{8}$ inch wide. Has 6-inch folds. Stainless joints, tips and strike plates. Joints are concealed.

Regular figuring. Numbering begins on outside of rule. Large Gothic figures. Graduated in 16ths of an inch, both sides. Durable lacquer finish. Bright green ends.

Packed 6 in a carton.

Packed 6 in a carton.		Yellow Enamel	White Enamel
No.		06	106
Each		\$1.50	1.50
Length	feet	6	6
Weight per 6	pounds	1½	1½

Lufkin Flat Wood Rules Brass Capped



High grade, one-piece, polished hard maple bench or table rule for general shop and factory use.

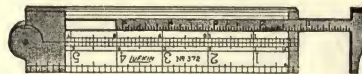
Stamped black lines and figures are clear-cut and easy to read. Made of selected stock, properly seasoned and finished.

Marked on both sides, both edges, one side 8ths, the other side 16ths inch.

No.	7131	7132	7133	7134	7135
Each.	\$1.20	1.50	2.00	2.50	3.00
Length. in.	24	36	48	60	72
Diameter. in.	$1\frac{1}{2} \times \frac{3}{16}$	$1\frac{1}{2} \times \frac{3}{16}$	$1\frac{1}{2} \times \frac{1}{4}$	$1\frac{1}{2} \times \frac{1}{4}$	$1\frac{1}{2} \times \frac{1}{4}$
Weight per Dozen. lb.	$2\frac{1}{4}$	$3\frac{1}{4}$	$5\frac{1}{2}$	$6\frac{3}{4}$	8

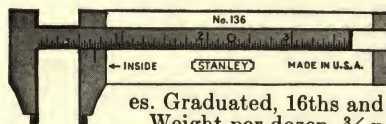
No. 372 Lufkin Boxwood Caliper Rules

A sturdy rule, $1\frac{3}{8}$ inches wide. One foot, two fold. Unbound. Square joint. Brass bit plate. Graduated in 8ths, 10ths, 12ths, and 16ths; caliper, 16ths and 32nds. Packed 6 in box. Weight per dozen, 1 $\frac{3}{4}$ pounds.



No. 372 (36 $\frac{1}{2}$)	per dozen	\$24.00
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No. 136 Stanley Boxwood 4-Inch Caliper Rules



Caliper head milled for inside or outside calipering. Width, $1\frac{3}{8}$ inches.

Graduated, 16ths and 32nds.

Weight per dozen, $\frac{3}{4}$ pound.

No. 136	each	\$1.20
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Master Flexible Steel Tape Rules



Case made of chrome-plated steel. Detachable blade is of high quality tempered steel; permanently etched figures. Graduated on both sides. Inside measurement is read direct at point where tape disappears into case. Precision lock is cam lever type, welded to side of case. Packed 6 in a box.

No.	*406	408
Each	\$2.50	2.75
Length	feet	6 8
Width	inches	1½ 1½
Weight	ounces	3¾ 4½

*With layout measurements.

Lufkin Mezurall Chrome-Clad Tape Rules



For inside and outside, height and depth, flexible and rigid measurements. Chrome-plated blade, $\frac{1}{2}$ -inch width, resists rust; concave, manually operated, holds stiff at length withdrawn.

Jet black markings on chrome white surface.

Heavily plated case, three flat edges. Stands unsupported in three measuring positions. Self-adjusting hook permits accurate butt end and hooked-over measurement.

Blade marked one side, both edges, inches to 16ths. First six inches upper edge to 32nds. Width of case, 2 inches.

Packed 1 in a box, 6 in a carton. Weight (6-foot), 3 ounces.

No. C-926, 6-Foot Length.....	each	\$1.75
No. C-928, 8-Foot Length.....	each	1.95
No. RC6, 6-Foot Replaceable Blade.....	each	.95
No. RC8, 8-Foot Replaceable Blade.....	each	1.10

Lufkin Wizard Tape-Rules

Flexible—Rigid



Rule blade is of high quality tempered steel, stiffened by special forming. Blade has nickel-plated surface with dark figures and lines in sharp contrast. It is manually withdrawn and returned. Nickel-plated case.

Zero falls at inside of hook. Accurate butt end measurements can be taken from shoulders of blade. Marked in consecutive inches to 16ths both edges; first 6 inches, upper edge to 32nds. No. 686D marked in feet, 10ths and 100ths of feet upper edge, feet, inches and 16ths on lower edge.

Packed 1 in a box, 6 in a carton.

No. 686, 72-Inch, $\frac{5}{8}$ -Inch Wide.....	each	\$1.35
No. 688, 96-Inch, $\frac{5}{8}$ -Inch Wide.....	each	1.80
No. 686-D, 6-Foot, $\frac{5}{8}$ -Inch Wide.....	each	1.70
No. 6810, 120-Inch, $\frac{5}{8}$ -Inch Wide.....	each	3.60

Lufkin Wizard Jr. Chrome-Clad Tape Rules

Chrome-clad, non-glare blade resists rust and wear—will not chip, crack or peel. Black markings, permanently bonded to steel and sunk below surface, stand out sharply against chrome white background, easily read. Blade, $\frac{1}{2}$ -inch wide, is held in case by a simple stop catch guarding against breakage



when not in use. Blades replaceable (instructions packed in box). Self-adjusting end hooks afford accurate butt end and hooked-over measurements. Heavily plated case flush inset side plates in red and white. Blade marked inches to 16ths, both edges, first six inches upper edge to 32nds.

Packed 1 in a box; 6 in a carton.

Weight per carton, 1 pound, 4 ounces.

No. C-1686, 6-Foot Rule.....	each	\$1.35
No. C-1688, 8-Foot Rule.....	each	1.60
No. RC6, Replaceable Blade for No. C-1686.....	each	.95
No. RC8, Replaceable Blade for No. C-1688.....	each	1.10

Lufkin Universal Steel Tapes



The steel line is of standard weight, $\frac{3}{8}$ inch wide, clearly marked and has instantaneous readings and Nubian finish.

The case has flat, flush, nickel-plated edge band $\frac{3}{16}$ -in. wide. Case is metal-lined, covered with maroon vinyl. Folding flush handle is opened by pressing pin on opposite side. All trimmings are nickel-plated.

Tape marked feet, inches and 8ths, one side only.

Packed 1 in a box.

No.	540	543	545	546
Each.....	\$5.30	6.50	8.50	10.60
Length.....	feet 25	50	75	100
Weight.....	ounces 6	10	15	17

Lufkin Leader Chrome Clad Steel Tapes

Accurate steel tape, chrome plated. Markings durable as well as extra legible. Measurements easy to read, even in poor light, markings being jet black on satin chrome-white surface, free of glare. The hard chrome surface resists both rust and wear, is smooth and easy to clean. Thus built up, of metal throughout, this tape will not crack, chip or peel, and is extra strong.

The $\frac{3}{8}$ -inch tape line is marked in feet, inches and eighths.



Case is covered with maroon-colored vinyl, metal lined; winding handle opened by push pin.

Packed 1 in a box.

No.	C250	C253	C255	C256
Each	\$6.10	7.50	10.20	12.60
Lgth.ft.	25	50	75	100
Wt.oz.	9	15	75	25

Lufkin Leader Chrome Clad Steel Measuring Tapes



Heavily chrome-plated steel tape. Jet black markings stand out sharp and clear against chrome white background. Chrome Clad line will not chip, crack or peel.

Instantaneous readings; zero falls at outer end of steel hook ring. Width, $\frac{3}{8}$ inch; marked one side only. Case covered with maroon colored vinyl. Has substantial plated steel liner and a $\frac{3}{16}$ inch wide, flat, flush, nickel plated edge band. Folding flush handle is opened by push pin.

No.	H-C250	H-C253	H-C255	H-C256
Each.....	\$6.40	7.80	10.50	12.90
Length.....	feet 25	50	75	100
Weight.....	ounces 9	15	20	25

Lufkin Anchor Chrome Clad Steel Tapes

Accurate, high grade steel tape, chrome plated to resist rust. Durable, extra legible markings of jet black on satin chrome-white surface, free of glare. Easy to clean. Surface will not crack, chip or peel. Leather case, metal lined; winding handle opened by pushpin.

Packed 1 in a box.

 $\frac{3}{8}$ Inch Width

Ft., In. & 8ths No.	Ft., 10ths & 100ths No.	Each	Lgth. Ft.	Wt. Oz.
C210	C210D	\$8.40	25	9
C213	C213D	10.20	50	15
C215	C215D	13.30	75	21
C216	C216D	17.50	100	26

Lufkin Anchor Chrome Clad Steel Tapes

Accurate, high grade steel tape, chrome plated to resist rust. Durable, extra legible markings of jet black on satin chrome-white surface, free of glare. Easy to clean. Tape will not crack, chip or peel. Leather case, metal lined; winding handle opened by push pin.

Packed 1 in a box.

 $\frac{1}{2}$ Inch Width

Ft., In. & 8ths No.	Ft., 10ths & 100ths No.	Each	Lgth. Ft.	Wt. Oz.
C310	C310D	\$9.70	25	10
C313	C313D	11.60	50	19
C315	C315D	15.30	75	26
C316	C316D	19.30	100	31

Lufkin Challenge Junior Steel Tapes



Tape is $\frac{1}{4}$ inch wide.

Genuine leather cases; nickel-plated trimmings and folding flush handle.

Nos. 1260 and 1263 are marked in feet, inches and 16ths; Nos. 1260D and 1263D are marked in feet, 10ths and 100ths, one side only. Packed one in a box.

No.	1260	1263	1260D	1263D
Length.....feet	25	50	25	50
Weight, Each.....ounces	4	7	4	7
Each.....	\$7.10	8.70	7.10	8.70

Lufkin Metallic Tapes

Linen, $\frac{5}{8}$ inch, with metallic warp. Case is made of genuine leather with nickel-plated trimmings.

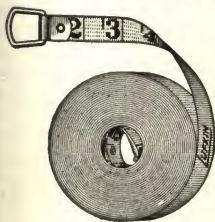
Nos. 500 to 506 marked in feet and inches and half inches; Nos. 500D to 506D marked in feet and 10ths and half 10ths, on one side only.



Packed 1 in a box.

No.	Each	Lgth Feet
500 & 500D	\$7.60	25
503 & 503D	10.80	50
505 & 505D	13.80	75
506 & 506D	17.00	100

Lufkin Metallic Woven Tape Refills For Nos. 500 and 600 Series Tapes



Lines $\frac{5}{8}$ inch wide, without cases. Equipped with regular ring at first end, threader loop at last end. Threader is attached to case and is not part of refill. Removal of drum or case screw unnecessary when inserting new line.

Instantaneous readings, last preceding foot number repeated at each inch or 10th of foot.

Marked one side only.

*No.	0500	0503	0505	0506	0507
†No.	0500D	0503D	0505D	0506D	.....
Each.....	\$3.20	5.40	7.80	10.50	16.30
Length.....ft.	25	50	75	100	150
Weight.....oz.	4	7	9	12	18

*Marked, feet, inches and half inches.

†Marked, feet, 10ths and half 10ths.

Lufkin Universal Linen Tapes



This line is corded with pure unbleached linen and is well coated. It has great tensile strength, and holds its length well. Tape has prominent figures.

Case of genuine leather, hand-stitched, and with metal liner. Heavy brass folding handle, brass trimmings.

Marked feet, inches and half inches, one side only. Width, $\frac{5}{8}$ -inch.

Packed 1 in a box; 6 in a carton.

No.	940	943	946
Each.....	\$4.20	5.60	8.40
Length.....feet	25	50	100
Weight per Dozen.....pounds	5 $\frac{1}{4}$	6 $\frac{3}{4}$	11

Lufkin Royal Ni-Clad Steel Tape



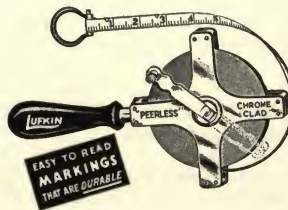
An accurate steel tape of fine quality. Nickel-plated, long wearing line, $\frac{3}{8}$ -inch wide, is rust and corrosion-resistant. Durable jet-black figures and graduations stand out clearly on the nickel-white background, are easily read.

Case is covered with attractive and durable dark green vinyl. Welded metal case liner resists rust and corrosion. Nickel-plated fittings. Folding flush handle is opened by push pin. Flush drum. Tape has standard ring.

Graduated in feet, inches, eighths. Packed 1 in a box.

No. 433, 50 Feet; Weight, 10 Ounces.....each \$4.50
No. 436, 100 Feet; Weight, 17 Ounces.....each 6.50

Lufkin Peerless Chrome Clad Steel Tapes



A $\frac{1}{4}$ -inch steel tape, chrome plated, with jet black markings on satin, chrome-white surface, free of glare. Markings are easy to read and durable.

Resists rust, will not crack, chip or peel and is extra strong. Surface is hard, smooth and easy to clean.

Has four-arm, nickel plated metal frame with lock handle. Furnished with a pair of detachable finger rings and is detachable from frame. Zero falls at outer end of tape.

Marked one side only. Length, 100 feet.

Packed 1 in a box. Weight, 2 $\frac{3}{4}$ pounds.

No. C1276, Marked in Feet, Inches and 8ths...each \$28.20

No. C1276D, Marked in Feet, 10ths and 100ths...each 28.20

Lufkin Oil Gauging Steel Tapes

With No. 588 Plumb Bob—Folding Winding Handle



Standard weight steel tape marked feet, inches and 8ths, one side only.

Has metal frame. Frame and mountings nickel plated. Line has swivel snap and bob. Line has Instantaneous Readings and Nubian Finish. Removable polished hardwood handle.

Solid brass, cone shaped, detachable, plumb bob.

Greatest diam., $1\frac{1}{4}$ inches; length, 2 $\frac{3}{8}$ inches.

In ordering, use stock numbers complete.

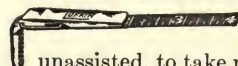
With $\frac{3}{8}$ -Inch Tape				With $\frac{1}{2}$ -Inch Tape			
Lgth. Ft.	No.	Comp. Each	Wt. Lb.	No.	Comp. Each	Wt. Lb.	
25	280 with 588	\$11.30	1 $\frac{3}{8}$	290 with 588	\$12.70	1 $\frac{1}{2}$	
33	281 with 588	12.70	1 $\frac{1}{2}$	291 with 588	14.70	1 $\frac{5}{8}$	
50	283 with 588	15.40	1 $\frac{5}{8}$	293 with 588	17.20	1 $\frac{7}{8}$	

Lines for Lufkin Oil Gauging Steel Tapes

Fitted for No. 588 Plumb Bob Without Bob and Frame

$\frac{3}{8}$ -Inch Wide				$\frac{1}{2}$ -Inch Wide			
Lgth. Ft.	No.	Each	Wt. Lb.	No.	Each	Wt. Lb.	
25	0280 for 588	\$5.90	$\frac{5}{16}$	0290 for 588	\$7.30	$\frac{3}{8}$	
33	0281 for 588	6.30	$\frac{3}{8}$	0291 for 588	7.70	$\frac{1}{2}$	
50	0283 for 588	7.30	$\frac{1}{2}$	0293 for 588	9.10	$\frac{11}{16}$	

No. 552 Lufkin Tape Hooks



For standard type, riveted-on, end ring tapes. Enables one man,

unassisted, to take measurements. Hook is easily slipped on and off tape, yet cannot fall off. Made of brass, heavily nickel-plated. Has tape guide or channel, and spring for holding line in guide. Packed 12 in a box.

No. 552.....each \$2.00
For Steel Tape Size.....inches $\frac{3}{8}$

Marvel Draw Cut Hacksaws Belt or Motor-Driven No. 1—Capacity, 4x4 Inches



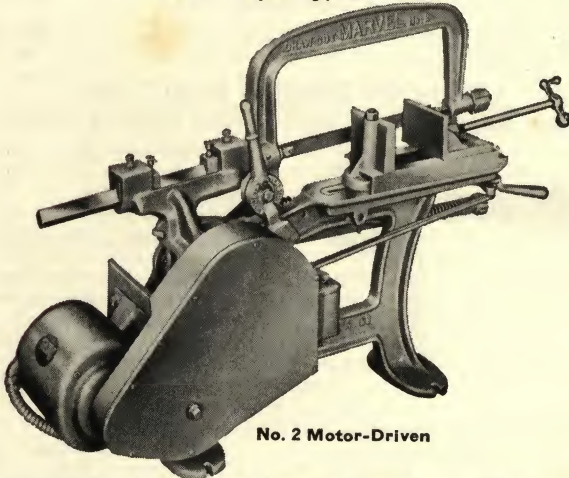
No. 1 Belt-Driven

Feed pressure is applied to saw blade on draw cut only, pressure being released on return stroke. Feed is regulated by hand nut at front end of compression spring. Feed lever raises or lowers saw frame and holds it at any angle. Vise is quick action type. Large jaws. Ex-

tension to table so material rests on both sides of saw. Drive shaft automatically stops when cut is completed. Length of blade, 12 inches. Size of pulley, 18x3 1/4 inches. Revolutions, 60 to 90 per minute. Takes 3-inch belt. Motor-driven saw uses 1/2-hp. motor, connected to crank shaft by means of chains and sprockets running in oil in gear case.

Description	Each	Ship. Wt. Lb.
Belt-Driven, Complete with Pulley and Clutch.	\$120.75	140
Motor-Driven, Complete, with Standard Motor, Manual Switch and Automatic Stop:		
110 or 220-V., 50 or 60-Cy., Single-Phase, A.C.	225.75	225
110 or 220-V., 25 Cycle, Single-Phase, A.C.	249.90	225
115 or 230-Volt, D.C.	248.85	225
220-Volt, 50 or 60-Cycle, 2 or 3-Phase, A.C.	233.10	225
220-Volt, 25 Cycle, 3-Phase, A.C.	259.35	225
440-Volt, 50 or 60-Cyl., 3-Phase, A.C.	236.25	225

No. 2—Capacity, 8x8 Inches



No. 2 Motor-Driven

Similar No. 1, but much heavier throughout. Has loose, swivel vise so that material can be cut at an angle up to 45°. Entire vise can be removed, leaving a T-slotted table for holding jigs, irregular shapes, etc. Has adjustable stroke, longest stroke 6 3/4 inches, shortest stroke 4 inches.

Capacity, 6x6 inches on long stroke, 8x8 inches on short stroke. Takes any length blade from 12 to 17 inches. Revolutions, 50 to 70 per minute. Size of pulley (belt-driven machine), 20x3 1/2 inches. Takes 3-inch belt.

Motor-driven machine uses 1/2-hp. motor connected to crank shaft by means of silent chain, machined sprockets, and intermediate cut gears all running in oil.

Description	Each	Ship. Wt. Lb.
Belt Driven, Complete with Pulley and Clutch.	\$220.50	300
Motor-Driven, Complete with Standard Motor, Manual Switch and Automatic Stop:		
110 or 220-V., 50 or 60-Cy., Single Phase, A.C.	372.75	450
110 or 220-V., 25 Cycle, Single Phase, A.C.	396.90	450
115 or 230-Volt, D.C.	388.50	450
220-Volt, 50 or 60-Cycle, 2 or 3 Ph., A.C.	368.55	450
220-Volt, 25 Cycle, 3-Phase, A.C.	399.00	450
440-Volt, 50 or 60-Cycle, 3-Phase, A.C.	368.55	450

Star Hacksaw Blades

14 Teeth. For cutting steel tubing, structural shapes, high speed steel and tool steel.

10 Teeth. For cutting tool steel, cast iron, heavy angle iron, bronze and brass.

6 Teeth. For cutting machine steel, soft metals, large section metals, bronze and brass.

4 Teeth. For cutting heavy solid bars of stock. Standard package, 10 blades.

Moly High Speed Steel Power Blades

Standard package, 10 blades.
Has copper metallic finish.

Size Inches	NUMBER TEETH PER INCH					Wt., Lb. per 100	Each
	18	14	10	6	4		
12x5/8x.032	1258-184	1254-144				7	\$7.75
12x1x.049		1219-144				17	1.43
12x1x.065			1215-104			22	1.66
14x1x.049		1419-144	1419-104			20	1.67
14x1x.065			1415-104			25	1.94
14x1 1/4x.065			1445-104	1445-064	1445-044	33	2.42
14x1 1/2x.072				1422-064	1422-044	45	3.08
17x1x.049		1719-144				24	2.03
17x1x.065			1715-104			31	2.35
17x1 1/4x.065			1745-104	1745-064	1745-044	39	2.94
18x1x.065			1815-104			33	2.49
18x1 1/4x.065			1845-104	1845-064	1845-044	42	3.11
18x1 1/2x.072				1822-064	1822-044	54	3.96
18x2x.085				1805-064	1805-044	90	5.83
21x2x.085				2105-064	2105-044	102	6.80
24x2x.085				2405-064	2405-044	121	7.77
24x2x.100					2400-044	138	8.63
30x2 1/2x.100					3050-044	215	13.48

High Speed Steel 18-4-1 Power Blades

Has silver metallic finish.

Size Inches	NUMBER TEETH PER INCH					Wt., Lb. per 100	Each
	18	14	10	6	4		
12x5/8x.032	1258-185	1254-145				7	\$8.88
12x1x.049		1219-145				19	1.68
12x1x.065			1215-105			24	1.95
14x1x.049		1419-145	1419-105			21	1.96
14x1x.065			1415-105			28	2.28
14x1 1/4x.065			1445-105	1445-065	1445-045	35	2.85
14x1 1/2x.072				1422-065	1422-045	48	3.62
17x1x.049		1719-145				26	2.38
17x1x.065			1715-105			33	2.76
17x1 1/4x.065			1745-105	1745-065	1745-045	43	3.46
18x1x.065			1815-105			35	2.93
18x1 1/4x.065			1845-105	1845-065	1845-045	45	3.66
18x1 1/2x.072				1822-065	1822-045	59	4.65
18x2x.085				1805-065	1805-045	95	6.86
21x2x.085				2105-065	2105-045	110	8.00
24x2x.085				2405-065	2405-045	130	9.14
24x2x.100					2400-045	148	10.15
30x2 1/2x.100					3050-045	235	15.86

No. 249 Starrett Screw Slotting Saw Blades



No. 249E

For cutting slots in screw heads. Can be used in any adjustable or 8-inch hack saw frame.

Hardened throughout and tapers in thickness from teeth to back, providing good clearance and preventing binding by allowing blade to cut easily and quickly.

Length, 8 inches; width, 1/2 inch.

Furnished with either 14 or 24 teeth to the inch. The 14-tooth blade furnished unless otherwise ordered.

Packed three dozen of one thickness in a box.

No.	249A	249B	249C	249D
Each	\$.35	.40	.45	.50
Approx. Thickness at Teeth in.	.049	.065	.083	.109

No. 249E, Set of 4 Blades, One Each of Above.

Packed 12 Sets in a Carton.....per set \$1.70

Starrett High Speed Steel Hacksaw Blades Tungsten 18-4-1



Order by catalog No. Example: Order HS1810-64.

Hand Sizes

Packed 100 blades in a box.

Lgth. x Thick. x Width Inches	BLADE No.				Per 100 Blades
	TEETH PER INCH				
	14	18	24	32	
10x.025x $\frac{1}{2}$	.....	HS1018	HS1024	HS1032	\$54.00
12x.025x $\frac{1}{2}$	HS1214	HS1218	HS1224	HS1232	64.00

Heavy Duty Hand and Light Power

Packed 10 blades in a box.

Lgth. x Thick. x Width Inches	BLADE NO.		Per 10 Blades
	TEETH PER INCH		
	14	18	
12x.032x ⁵ / ₈	HS1214-32	HS1218-32	\$8.80

Power Sizes

Packed 10 blades in a box.

Lgth. x Thick. x Width Inches	BLADE No.				Per 10 Blades
	TEETH PER INCH				
	4	6	10	14	
12x.049x1	.....	.....	.....	HS1214-44	\$16.80
12x.065x1	.....	.....	HS1210-64	.....	19.50
14x.049x1	.....	.....	HS1410-44	HS1414-44	19.60
14x.065x1	.....	.....	HS1410-64	.....	22.80
14x.065x1¼	HS1404-65	HS1406-65	HS1410-65	.....	28.50
14x.072x1½	HS1404-76	HS1406-76	.....	.....	36.20
17x.049x1	.....	.....	.....	HS1714-44	23.80
17x.065x1	.....	.....	HS1710-64	.....	27.60
17x.065x1¼	HS1704-65	HS1706-65	HS1710-65	.....	34.60
18x.065x1	.....	.....	HS1810-64	.....	29.30
18x.065x1¼	HS1804-65	HS1806-65	HS1810-65	.....	36.60
18x.072x1½	HS1804-76	HS1806-76	.....	.....	46.50
18x.085x2	HS1804-88	HS1806-88	.....	.....	68.60
21x.085x2	HS2104-88	HS2106-88	.....	.....	80.00
24x.085x2	HS2404-88	HS2406-88	.....	.....	91.40
*24x.100x2	HS2404-08	.....	.....	.....	101.50
*30x.100x2½	HS3004-00	.....	.....	.....	158.60

*Furnished with $\frac{3}{4}$ -inch pinhole diameter only.

Star Hacksaw Blades

- 14 Teeth. For cutting soft steel, iron, rails, etc.
18 Teeth. For cutting tool steel, light angles, etc.
24 Teeth. For cutting sheet metals, drill rods, etc.
32 Teeth. For cutting thin tubing, BX conduit, pipe, etc.
Standard package, 100 blades.

All Hard Hand Blades

Size Inches	NUMBER				Wt., Lb.	
	TEETH PER INCH				per 100	Per 100
	14	18	24	32		
10x $\frac{1}{2}$ x.025	.....	1018-001	1024-001	1032-001	3 $\frac{1}{4}$	\$13.00
12x $\frac{1}{2}$ x.025	1214-001	1218-001	1224-001	1232-001	4	16.00

Standard Flexible Back Hard Edge Hand Blades

Tooth hardness equal to all hard blade but the body of the blade is unbreakable. A good general purpose hand blade.

Size Inches	NUMBER				Wt., Lb.	
	TEETH PER INCH				per 100	Per 100
	14	18	24	32		
10x $\frac{1}{2}$ x.025	.....	1018-002	1024-002	1032-002	3 $\frac{1}{4}$	\$13.00
12x $\frac{1}{2}$ x.025	1214-002	1218-002	1224-002	1232-002	4	16.00

Standard Unbreakable Special Flexible Hand Blades

Size Inches	NUMBER				Wt., Lb.	
	TEETH PER INCH				per 100	Per 100
	14	18	24	32		
10x $\frac{1}{2}$ x.025	.....	1018-003	1024-003	1032-003	3 $\frac{1}{4}$	\$13.00
12x $\frac{1}{2}$ x.025	1214-003	1218-003	1224-003	1232-003	4	16.00

In ordering always adds the letters SF to the blade number. 18-tooth furnished unless otherwise specified.

Moly High Speed Steel Hand Blades

Size Inches	NUMBER				Wt., Lb.	
	TEETH PER INCH				per 100	Per 100
	14	18	24	32		
10x $\frac{1}{2}$ x.025	.....	1018-004	1024-004	1032-004	3 $\frac{1}{2}$	\$51.00
12x $\frac{1}{2}$ x.025	1214-004	1218-004	1224-004	1232-004	4 $\frac{1}{2}$	61.00

High Speed Steel 18-4-1 Hand Blades

Size Inches	NUMBER				Wt., Lb.	
	TEETH PER INCH				per 100	Per 100
	14	18	24	32		
10x $\frac{1}{2}$ x.025	.....	1018-005	1024-005	1032-005	4 $\frac{1}{4}$	\$54.00
12x $\frac{1}{2}$ x.025	1214-005	1218-005	1224-005	1232-005	4 $\frac{3}{4}$	64.00

Order by Number as a Safeguard Against Error

Starrett High Speed Steel Hacksaw Blades S-M Molybdenum M-2



Order by catalog No. Example: Order SM1810-64.

Hand Sizes

Packed 100 blades in a box.

Lgth. x Thick. x Width Inches	—BLADE NO.—				Per 100 Blades
	TEETH PER INCH				
	14	18	24	32	
10x.025x $\frac{1}{2}$	.....	SM1018	SM1024	SM1032	\$51.00
12x.025x $\frac{1}{2}$	SM1214	SM1218	SM1224	SM1232	61.00

Heavy Duty Hand and Light Power

Packed 10 blades in a box.

Lgth. x Thick. x Width Inches	BLADE NO.		Per 10 Blades
	TEETH PER INCH		
	14	18	
12x.032x5/8	SM1214-32	SM1218-32	\$7.50

Power Sizes

Packed 10 blades in a box.

Lgth. x Thick. x Width Inches	BLADE NO.				Per 10 Blades
	TEETH PER INCH				
	4	6	10	14	
12x.049x1	.....	.....	.....	SM1214-44	\$14.30
12x.065x1	.....	.....	SM1210-64	.....	16.60
14x.049x1	.....	.....	SM1410-44	SM1414-44	16.70
14x.065x1	.....	.....	SM1410-64	.....	19.40
14x.065x1¼	SM1404-65	SM1406-65	SM1410-65	.....	24.20
14x.072x1½	SM1404-76	SM1406-76	.....	.....	30.80
17x.049x1	.....	.....	.....	SM1714-44	20.30
17x.065x1	.....	.....	SM1710-64	.....	23.50
17x.065x1¼	SM1704-65	SM1706-65	SM1710-65	.....	29.40
18x.065x1	.....	.....	SM1810-64	.....	24.90
18x.065x1¼	SM1804-65	SM1806-65	SM1810-65	.....	31.10
18x.072x1½	SM1804-76	SM1806-76	.....	.....	39.60
18x.085x2	SM1804-88	SM1806-88	.....	.....	58.30
21x.085x2	SM2104-88	SM2106-88	.....	.....	68.00
24x.085x2	SM2404-88	SM2406-88	.....	.....	77.70
*24x.100x2	SM2404-08	.....	.....	.....	86.30
*30x.100x2½	SM3004-00	.....	.....	.....	134.80

*Furnished with $\frac{3}{4}$ -inch pinhole diameter only.

Starrett Standard Hand Hacksaw Blades



Order by catalog No. Example: Order S1018.

Flexible Back

Packed 100 blades in a box.

Lgth. x Thick. x Width Inches	BLADE No.				Per 100 Blades
	TEETH PER INCH				
	14	18	24	32	
10x.025x½	.....	F1018	F1024	F1032	\$13.00
12x.025x½	F1214	F1218	F1224	F1232	16.00

Semi-Flex

Packed 100 blades in a box.

Lgth. x Thick. x Width Inches	BLADE NO.				Per 100 Blades
	TEETH PER INCH				
	14	18	24	32	
10x.025x $\frac{1}{2}$	.....	S1018	S1024	S1032	\$13.00
12x.025x $\frac{1}{2}$	S1214	S1218	S1224	S1232	16.00

All Hard

Packed 100 blades in a box.

Lgth. x Thick. x Width Inches	BLADE No.				Per 100 Blades
	TEETH PER INCH				
	14	18	24	32	
10x.025x $\frac{1}{2}$	.....	H1018	H1024	H1032	\$13.00
12x.025x $\frac{1}{2}$	H1214	H1218	H1224	H1232	16.00

Starrett Metalcutting Band Saws

Hard Edge—Flexible Back—Milled Teeth
Standard A Temper



Coil Stock

Made from a special tough alloy steel.

Widths $\frac{1}{16}$ to $\frac{1}{2}$ -inch inclusive especially adapted for contour cutting on die and bandsaw machines; ideal for precision sawing on internal or external work.

Widths $\frac{1}{16}$ through $\frac{3}{16}$ in. furnished in 100-ft. coils; widths $\frac{1}{4}$ through 1 in. in 100 or 250-ft. coils as required.

When ordering, specify width, length and number of teeth to inch; also size and kind of material to be cut, as well as make of machine and speed of operation.

Width Inches	THICKNESS		Teeth per Inch	Ft. per Lb.	Per Ft.	Welding Each
	In.	Gage No.				
$\frac{1}{16}$	.025	23	24, 32	200	\$.18	\$.90
$\frac{3}{32}$	.025	23	18, 32	140	.18	.90
$\frac{1}{8}$	.025	23	14, 18, 24	120	.18	.90
$\frac{3}{16}$	.025	23	10, 14, 18, 24, 32	70	.18	.90
$\frac{1}{4}$	.025	23	10, 12, 14, 18, 24, 32	60	.18	.90
$\frac{3}{8}$	.025	23	8, 10, 14, 18, 24	35	.192	.90
$\frac{1}{2}$	.025	23	6, *10, *14, 18, 24	25	.204	.90
$\frac{5}{8}$	.032	21	8, *10, *14, 18, 24	16	.252	.90
$\frac{3}{4}$	.032	21	6, 8, *10, *12, *14, 18	12	.288	.90
1	.035	20	6, 8, *10, 14	9	.36	.90

Band saws with 32 teeth made in wavy set only.

Band saws with 6 through 24 teeth made in raker set.

*Can be furnished in wavy set also.

Raker set furnished unless otherwise specified.

Cut to Length and Welded (in Individual Cartons)

Lengths	WIDTHS AND THICKNESSES, INCHES					
	Under $\frac{3}{16}$ per Length	$\frac{3}{16} \times$.025 per Length	$\frac{1}{2} \times$.025 per Length	$\frac{5}{8} \times$.032 per Length	$\frac{3}{4} \times$.032 per Length	1x .035 per Length
5'0"	\$1.80	\$1.86	\$1.92	\$2.16	\$2.34	\$2.70
5'6"	1.89	1.96	2.02	2.29	2.48	2.88
6'0"	1.98	2.05	2.12	2.41	2.63	3.06
6'6"	2.07	2.15	2.23	2.54	2.77	3.24
7'0"	2.16	2.24	2.33	2.66	2.92	3.42
7'6"	2.25	2.34	2.43	2.79	3.06	3.60
8'0"	2.34	2.44	2.53	2.92	3.20	3.78
8'6"	2.43	2.53	2.63	3.04	3.35	3.96
9'0"	2.52	2.63	2.74	3.17	3.49	4.14
9'6"	2.61	2.72	2.84	3.29	3.64	4.32
10'0"	2.70	2.82	2.94	3.42	3.78	4.50
10'6"	2.79	2.92	3.04	3.55	3.92	4.68
11'0"	2.88	3.01	3.14	3.67	4.07	4.86
11'6"	2.97	3.11	3.25	3.80	4.21	5.04
12'0"	3.06	3.20	3.35	3.92	4.36	5.22
12'6"	3.15	3.30	3.45	4.05	4.50	5.40
13'0"	3.24	3.40	3.55	4.18	4.64	5.58
13'6"	3.33	3.49	3.65	4.30	4.79	5.76
14'0"	3.42	3.59	3.76	4.43	4.93	5.94
14'6"	3.51	3.68	3.86	4.55	5.08	6.12
15'0"	3.60	3.78	3.96	4.68	5.22	6.30
15'6"	3.69	3.88	4.06	4.81	5.36	6.48
16'0"	3.78	3.97	4.16	4.93	5.51	6.66
16'6"	3.87	4.07	4.27	5.06	5.65	6.84
17'0"	3.96	4.16	4.37	5.18	5.80	7.02
17'6"	4.05	4.26	4.47	5.31	5.94	7.20
18'0"	4.14	4.36	4.57	5.44	6.08	7.38
18'6"	4.23	4.45	4.67	5.56	6.23	7.56
19'0"	4.32	4.55	4.78	5.69	6.37	7.74
19'6"	4.41	4.64	4.88	5.81	6.52	7.92
20'0"	4.50	4.74	4.98	5.94	6.66	8.10
20'6"	4.59	4.84	5.08	6.07	6.80	8.28
21'0"	4.68	4.93	5.18	6.19	6.95	8.46
21'6"	4.77	5.03	5.29	6.32	7.09	8.64
22'0"	4.86	5.12	5.39	6.44	7.24	8.82

Bands a fraction over foot in length, figure as next half foot; over half foot in length, figure as next full foot.

Black & Decker Hole Saws

Coarse Tooth Tungsten
Steel Saw on No.
14903 MandrelCoarse Tooth Tungsten
Steel Saw on No.
18028 MandrelHigh Speed
Steel Saw on No.
14904 Mandrel

Available in three types:

Fine Tooth Tungsten Steel for sheet metal, steel, porcelain and all thin or sheet materials;

Coarse Tooth Tungsten Steel for wood, fiber, bakelite, cast iron and all thick, coarse materials; and

High Speed Steel for cutting the new hard alloys and for long service on production work.

Can be used with all drills from the $\frac{1}{4}$ -inch low speed Holgun up, but speed and power requirements suggest the following size limits: on $\frac{1}{4}$ -inch low speed Holgun, not larger than $1\frac{1}{8}$ -inch hole saw; on $\frac{3}{8}$ -inch utility and $\frac{3}{8}$ -inch standard drills, not larger than $1\frac{1}{2}$ -inch hole saw, and on $\frac{1}{2}$ -inch Junior and $\frac{1}{2}$ -inch standard drills, not larger than $3\frac{1}{2}$ -inch hole saw.

O.D. Saw In.	Conduit Size In.	Pipe Tap Size In.	For Tungsten Steel		Saw Only Each	For High Speed Steel		Saw Only Each
			Fine Tooth No.	Coarse Tooth No.		No.	No.	
$\frac{5}{8}$	...	...	23051	...	\$1.80	...	...	...
$\frac{3}{4}$	$\frac{3}{8}$	...	16882	14906	.60	21747	...	\$1.40
$\frac{7}{8}$	$\frac{1}{2}$	...	16883	14908	.60	21748	...	1.40
$1\frac{1}{16}$	...	$\frac{3}{4}$	21382	...	.60	21749	...	1.40
1	...	...	16884	14910	.60	21771	...	1.40
$1\frac{1}{16}$	...	...	21875	22953	.80	22809	...	1.40
$1\frac{1}{8}$	$\frac{3}{4}$	...	16885	14912	.80	21772	...	1.40
$1\frac{1}{8}$	...	1	17678	17679	.80	21773	...	1.40
$1\frac{1}{4}$	...	...	16886	14911	.80	21781	...	1.40
$1\frac{3}{8}$	1	...	16887	14913	.80	21782	...	1.40
$1\frac{1}{2}$	...	$1\frac{1}{4}$	16888	14914	.80	21783	...	1.40
$1\frac{3}{4}$	$1\frac{1}{4}$	$1\frac{1}{2}$	16889	14915	.95	21784	...	1.40
$1\frac{7}{8}$	...	...	16890	14916	.95	21785	...	1.85
2	$1\frac{1}{2}$	...	16891	14917	.95	21786	...	1.85
$2\frac{1}{16}$	...	...	16892	14918	1.10	21787	...	1.85
$2\frac{1}{8}$	...	...	16893	14919	1.10	21788	...	2.50
$2\frac{1}{4}$	...	2	16894	14920	1.10	21789	...	2.50
$2\frac{3}{8}$	...	...	16895	14922	1.30	21790	...	2.50
$2\frac{1}{2}$	2	...	16896	14921	1.30	21791	...	2.50
$2\frac{5}{8}$	...	...	16897	14923	1.30	21792	...	2.50
$2\frac{3}{4}$	...	$2\frac{1}{2}$	16898	14924	1.40	21793	...	2.50
$2\frac{7}{8}$	...	...	16899	14925	1.40	21794	...	2.50
3	$2\frac{1}{2}$	...	16900	14927	1.40	21795	...	2.50
$3\frac{1}{8}$	...	...	16901	14926	1.55	21796	...	2.50
$3\frac{1}{4}$	...	3	16902	14930	1.55	21797	...	2.50
$3\frac{3}{8}$	...	...	16903	14929	1.55	21798	...	2.50
$3\frac{1}{2}$	3	...	...	24172	1.55	...	...	...
$3\frac{3}{4}$	...	...	16904	14928	1.55	21799	...	2.50
$3\frac{7}{8}$	...	...	...	24173	1.85	...	...	...
4	$3\frac{1}{2}$	...	...	24174	1.85	...	...	...
	...	...	...	24175	1.85	...	...	...
	...	...	16905	14932	1.85	21800	...	4.25

*Built-in mandrel; no separate mandrel required.

Mandrels for $\frac{1}{4}$, $\frac{5}{16}$ and $\frac{3}{8}$ -Inch Drills

No. 22181 Mandrel with Pilot Drill, To Fit $\frac{3}{4}$ to $1\frac{1}{8}$ -Inch Hole Saws.....each \$1.80

No. 22182 Mandrel with Pilot Drill, To Fit $1\frac{1}{4}$ to $1\frac{1}{2}$ -Inch Hole Saws.....each 1.85

No. 22192 Pilot Drill Only For Above Mandrels.....each .45

No. 23050, $\frac{3}{16}$ -Inch Pilot Drill for No. 23051 Hole Saw.....each .35

Mandrels for $\frac{1}{2}$ -Inch Drills and Larger

No. 14903 Mandrel with Pilot Drill, To Fit $\frac{3}{4}$ to $1\frac{1}{8}$ -Inch Hole Saws.....each \$1.80

No. 14904 Mandrel with Pilot Drill, To Fit $1\frac{1}{4}$ to $1\frac{1}{2}$ -Inch Hole Saws.....each 1.85

No. 18028 Mandrel with Pilot Drill, To Fit 2 to 4-Inch Hole Saws.....each 2.15

No. 14935 Pilot Drill Only For Above Mandrels.....each .45

No. 1046 Crescent Hacksaw Frames

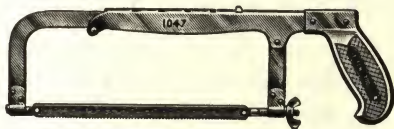
This is an all steel frame, adjustable style. The handle is made of heavy gage steel in the popular pistol grip style and is securely riveted to the frame.

Frame is adjustable for 8, 10 and 12-inch blades. Depth of cut, $2\frac{1}{2}$ inches; steel, .164x $\frac{9}{16}$.

Packed 1 in a box; 3 dozen in a shipping carton.

Weight each, 19 ounces.

No. 1046.....each \$2.00

No. 1047 Crescent Hacksaw Frames

All steel frame, adjustable style. Handle is made of heavy gage steel in the popular pistol grip style and is securely riveted to the frame. This saw will stand throwing around without breaking.

Both frame and handle are nickel plated.

Adjustable, 8 to 12 inches. Depth of cut, $3\frac{1}{4}$ inches. Size steel, $\frac{3}{16}$ x $\frac{1}{16}$ inches.

Packed 1 in a box with blade. Packed 3 dozen in a shipping carton.

Weight each, 23 ounces.

No. 1047.....each \$2.20

No. 1049 Crescent Hacksaw Frames

This is a frame of the adjustable style with a pistol grip handle made of a tough synthetic. The frame extends all the way through the handle, and handle will not break off.

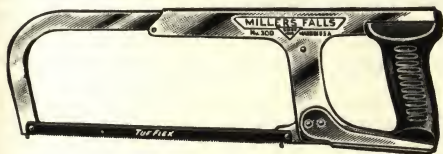
Chromium plated frame and black Neoprene handle.

Size adjustable, 8 to 12 inches. Depth cut, $3\frac{1}{4}$ inches. Size steel, $\frac{3}{16}$ x $\frac{1}{16}$ inches.

Packed 1 in a display box with blade; 3 dozen in a shipping carton.

Weight, 23 ounces.

No. 1049.....each \$2.65

No. 300 Millers Falls Hacksaw Frames

Rigid, heavy duty frame. Adjustable for either 10 or 12-inch blades, which may be faced in any one of four directions. Depth of throat, $3\frac{7}{8}$ inches.

The handle is of extremely tough, durable red plastic molded on in one piece. Affords a comfortable grip.

Equipped with Tuf-Flex special alloy, flexible blade.

All exposed metal parts polished, nicked, and buffed. Packed 1 in a box. Weight, 2 pounds.

No. 300.....each \$3.80

No. 48 Hack Saw Frames

Checked composition pistol grip handle. Equipped with one 10-inch blade.

Capacity 8-12 inches. Depth $3\frac{1}{4}$ inches. Weight $1\frac{1}{4}$ lbs.

No. 48.....each \$3.00

No. 515A Millers Falls Hacksaw Frames

Capacity, 12-Inch Blade



Made for extra heavy work on rods, bars, structural shapes, etc.

Blade tension secured by tightening wing nut. Blade is faceable in four directions. One 12-inch blade furnished with each frame.

Depth, $5\frac{1}{4}$ inches. Stock, $1\frac{1}{4}$ inches.

Mahogany finished hardwood handle. Weight, 2 pounds.

No. 515A, Black Enameled.....each \$2.95

Atkins Rail Hacksaw Frames

Especially adapted to heavy cutting such as rails, I-beams, girders, etc. Made of special spring steel $1\frac{1}{4}$ inches wide, $\frac{1}{4}$ inch thick. Double turn buckle secures

proper tension on blade for straight cutting. Comfortable grip, beech handle, varnished overall, securely fastened to frame by 4 saw screws.

Packed 1 in box, without blades.

No.	1 1/2	2 1/2	3
Size.....inches	12	12	14
Depth under Back.....inches	7	10	10
Wt. per Doz.....pounds	35	42	44

Tiny Tim Hacksaws

Cuts thin tubing, wire, mica, sheet metal. Frame of nicked spring wire, $1\frac{1}{8}$ in deep at handle, Complete with Blades.....per 10 \$3.00
Blades, $6\frac{1}{4}$ x.014-In.; 28 Ga.; 32 Teeth.....per 100 10.00

No. 237 Millers Falls Keyhole Hacksaws

Cuts nails, metal lath, plaster board, stucco, armored cable, conduit, packing, bone, bakelite, fiber, hard and soft wood, etc. Especially useful for cutting in corners where an ordinary hacksaw frame cannot be used.

Handle is finished in red and black enamel. The blade with 18 teeth per inch is made of the same material as regular hacksaw blades. Has a flexible back which minimizes breakage. Length overall, $9\frac{1}{2}$ inches. Cutting edge, $5\frac{1}{2}$ inches. Packed 6 in a box. Weight, 4 ounces.

No. 237, Mounted on Display Card.....per dozen \$4.30
Extra Blades, No. 7-18 Tooth or No. 8-24 Tooth, per doz. 2.00

Files and Rasps

Kind.—By kind, we mean the varied shapes or styles of files which are distinguished by certain technical names, as, for instance, flat, mill, half-round, etc.

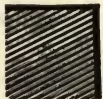
The kinds are divided from the form of their cross sections into three geometrical classes, namely: Quadrangular sections, circular sections, and triangular sections. Odd and irregular forms are collected under miscellaneous sections.

These sections are in turn sub-divided, according to their general contour or outline into taper or blunt.

Taper.—Designates a file the point of which is more or less reduced in size (both width and thickness) by a gradually narrowing section extending from one-half to two-thirds the length of the file, from the point.

Blunt.—Designates a file that preserves its sectional shape throughout, from point to tang.

Length.—The length of a file is the distance between its heel (or part of the file where the tang begins) and the point (for end opposite). The tang (or portion of the file prepared for the reception of the handle) is never included in the length. In general, the length of files bears no fixed proportion to either their width or thickness, even though they be of the same kind.



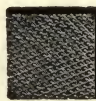
Mill, Bastard



Mill, Second Cut



Mill, Smooth

Double Cut
BastardDouble Cut
Second CutDouble Cut
SmoothFlat Wood Rasp
Bastard CutHalf Round Wood Rasp
Bastard CutCabinet Rasp
Second Cut

Cut.—The cut of files is divided, with reference to the character of the teeth, into single cut, double cut, and rasp cut; and, with reference to the coarseness of the teeth into rough, coarse, bastard, second cut, smooth, and dead smooth.

Regarding the latter, we may say briefly that the coarse and bastard cuts are used upon the coarser, heavier classes of work, while the second cut and smooth are used for finer grades and for finishing.

The single cut file is one in which a single, unbroken course of chisel cuts is made across its surface, arranged parallel to each other but with a horizontal obliquity to the central line.

The double cut file has two courses of chisel-cuts crossing each other, the second course, with rare exceptions, being finer than the first.

Single cut files.—Mill tapers, slim tapers, extra slim tapers, double extra slim tapers, handsaw blunt, handsaw blunt slim, bandsaw, pitsaw, lead float cantsaw, double ender, crosscut, special crosscut, round; 10-inch and under are single cut, over 10-inch are double cut.

Double cut files. Flat, hand, square, warding, knife, pillar, cabinet files, hand finishing, planer knife, flat aluminum, hand brass, square blunt, half round, and tapers.

Swiss Pattern files, designed to compete with the imported files of precision, are rapidly supplanting the latter in this country owing to their superiority of temper, cut, and adaptability.

Swiss Pattern files are double cut.

Nicholson Flat Files



A rectangular cross section file, with double cut teeth. Slightly tapered towards the points in both width and thickness, and cut on both edges.

Lgth. In.	Dimen. Inches	No. in Box	Approx. Wt., Lb. per Dozen	Lgth. In.	Dimen. Inches	No. in Box	Approx. Wt., Lb. per Dozen
4	1 5/32 x 3/32	12	9 1/16	12	1 5/32 x 9/32	6	11 9/16
6	1 7/32 x 3/32	12	1 5/8	14	1 11/32 x 9/16	6	18 1/2
8	1 29/32 x 3/32	12	3 5/8	16	1 17/32 x 1 1/32	6	27 1/4
10	1 31/32 x 1/4	6	7	18	1 11/16 x 3/8	6	36 1/2

Bastard

Length... in.	4	6	8	10	12	14	16	18
Per Dozen...	\$5.00	5.80	7.20	9.50	13.10	18.00	24.00	....

Second Cut

Length... in.	4	6	8	10	12	14	16
Per Dozen..	\$5.80	6.50	8.20	10.90	14.90	20.70	27.20

Smooth

Length... in.	4	6	8	10	12	14	16
Per Dozen..	\$6.40	7.20	3.90	11.80	16.30	22.60	30.10

Nicholson Mill Files



Single cut file, tapered slightly. Has square, cut edges.

Lgth. In.	Dimen- sions Inches	No. in Box	Approx. Wt., Lb. per Dozen	Lgth. In.	Dimen- sions Inches	No. in Box	Approx. Wt., Lb. per Dozen
4	7/16 x 5/64	12	3/8	10	31/32 x 1 1/64	12	5 1/4
6	1 19/32 x 7/64	12	1 1/16	12	1 1/32 x 7/32	6	9 1/16
7	1 11/16 x 1/8	12	1 15/16	14	1 1/16 x 1/4	6	13 1/16
8	1 25/32 x 9/64	12	2 1/16	16	1 1/2 x 3/32	6	20 5/8

Bastard

Length... in.	4	6	7	8	10	12	14	16
Per Dozen...	\$4.10	4.70	5.30	5.80	7.60	10.10	14.50	19.90

Second Cut Mill

Length..... inches	6	8	10	12	14
Per Dozen.....	\$5.40	6.60	8.60	11.60	16.50

Smooth

Length..... inches	6	8	10	12	14
Per Dozen.....	\$6.10	7.30	9.50	12.70	17.70

Two Round Edges—Bastard

Length..... inches	6	8	10	....
Per Dozen.....	\$5.90	7.30	9.50	....

Blunt—Bastard

Length..... inches	6	8	10	12
Per Dozen.....	\$5.30	....	6.50	8.50 11.30

Nicholson Machinist's General Purpose Files



A versatile file for roughing and finishing various metals such as aluminum, bronze, cast iron, malleable iron, mild steels and annealed tool steels. Stands up well under severe foundry work and also can be used effectively on wood.

Cut on both sides and edges. Single cut teeth divided by angular serrations into shorter cutting edges, which free readily from chips and perform roughing and smoothing operations simultaneously. Cuts faster than a single cut and leaves a smoother finish than a double cut. Made on flat blanks which taper in width but not in thickness.

Available in one degree of coarseness only.

Length..... inches	8	10	12	14
Per Dozen.....	\$8.00	10.50	14.50	19.50
Approx. Size..... inches	2 5/32 x 1 1/32	3 1/32 x 1 1/4	1 3/32 x 3/32	1 11/32 x 3/16
No. in Box.....	12	6	6	6
Approx. Wt. per Doz. lb.	3 3/8	7 1/4	11 1/4	17 1/2

Nicholson Half-Round Files



Double cut. Backs of second cut files, longer than 6 inches are double cut; the 4 and 6-inch files are single cut. Backs of smooth files are single cut. The flat sides of all half-round files are double cut.

Lgth. In.	Size In.	No. in Box	Approx. Wt. Lb. per Dozen	Lgth. In.	Size In.	No. in Box	Approx. Wt. Lb. per Dozen
4	$\frac{1}{16} \times \frac{1}{8}$	12	$\frac{5}{8}$	12	$1\frac{1}{8} \times 1\frac{1}{32}$	6	$9\frac{7}{8}$
6	$\frac{19}{32} \times \frac{5}{32}$	12	$1\frac{1}{16}$	14	$1\frac{1}{32} \times 1\frac{13}{32}$	6	16
8	$\frac{3}{4} \times \frac{7}{32}$	12	$3\frac{1}{8}$	16	$1\frac{15}{32} \times 1\frac{15}{32}$	6	$22\frac{3}{4}$
10	$\frac{15}{16} \times \frac{9}{32}$	6	$5\frac{13}{16}$				

Bastard

Length.....in.	4	6	8	10	12	14	16
Per Dozen.....	\$6.50	8.20	10.10	12.30	15.90	20.90	27.80

Second Cut

Length.....in.	4	6	8	10	12	14	
Per Dozen.....	\$7.60	9.10	11.20	13.60	17.60	23.00	

Smooth

Length.....in.	4	6	8	10	12	14	16
Per Dozen.....	\$8.20	9.60	12.00	14.50	18.80	24.70	32.70

Nicholson Round Files

Round Bastard File (Tapered)

Tapered slightly towards the point. Bastard cut files, 6 inches and longer, are double cut. Second cut files, 12 inches and longer, are double cut. Others single cut.

Lgth. In.	Width Inches	No. in Box	Approx. Wt., Lb. per Dozen	Lgth. In.	Width In.	No. in Box	Approx. Wt., Lb. per Dozen
4	$\frac{5}{32}$	12	$\frac{1}{4}$	10	$\frac{3}{8}$	12	$3\frac{1}{4}$
6	$\frac{7}{16}$	12	$\frac{3}{4}$	12	$\frac{1}{2}$	6	$6\frac{3}{4}$
7	$\frac{17}{64}$	12	$1\frac{3}{16}$	14	$\frac{5}{8}$	6	12
8	$\frac{5}{16}$	12	$1\frac{1}{4}$	16	$\frac{3}{4}$	6	$19\frac{1}{2}$

Bastard

Length...in.	4	6	7	8	10	12	14	16
Per Dozen...	\$4.10	4.70	5.30	5.80	7.60	10.10	14.50	19.90

Second Cut

Length.....in.	4	6	8	10	12	14	
Per Dozen.....	\$4.70	5.40	6.60	8.60	11.60	16.50	

Smooth

Length.....in.	4	6	8	10	12	14	
Per Dozen.....	\$5.30	6.10	7.30	9.50	12.70	17.70	

Nicholson Square Files



Tapered slightly toward point. Double cut.

Lgth. In.	Width In.	No. in Box	Approx. Wt., Lb. per Dozen	Lgth. In.	Width In.	No. in Box	Approx. Wt., Lb. per Dozen
4	$\frac{5}{32}$	12	$\frac{1}{4}$	12	$\frac{1}{2}$	6	$8\frac{1}{2}$
6	$\frac{7}{16}$	12	$\frac{3}{8}$	14	$\frac{5}{8}$	6	15
8	$\frac{9}{16}$	12	$1\frac{1}{16}$	16	$\frac{3}{4}$	6	25
10	$\frac{3}{8}$	12	$3\frac{1}{16}$	18	$\frac{7}{8}$	6	39

Bastard

Length..in.	4	6	8	10	12	14	16	18
Per Dozen.	\$5.10	6.20	7.40	10.00	13.80	18.80	25.30	

Second Cut

Length.....inches	4	6	8	10	12	14	
Per Dozen.....	\$6.20	6.90	8.50	11.50	15.50	21.70	

Smooth

Length.....inches	4	6	8	10	12	14	
Per Dozen.....	\$6.60	7.40	9.50	12.30	17.30	23.60	

Nicholson Three Square Files



Triangular in shape. Double cut with sharp corners.

The 6, 8, and 10 inch files are packed 12 in a box; 12 inch files are packed 6 in a box.

Length.....inches	6	8	10	12
Width.....inches	$\frac{15}{32}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{27}{32}$
Approx. Wt. per Doz.....lb.	$1\frac{13}{16}$	$4\frac{1}{4}$	$7\frac{1}{2}$	$11\frac{3}{8}$

Bastard

Length.....inches	6	8	10	12
Per Dozen.....	\$8.20	10.10	12.30	15.90

Second Cut

Length.....inches	6	8	10	12
Per Dozen.....	\$9.10	11.20	13.60	17.60

Smooth

Length.....inches	6	8	10	12
Per Dozen.....	\$9.60	12.00	14.50	18.80

Nicholson Long Angle Lathe Files

Flat Blanks



Designed for lathe filing, and bench filing of aluminum, compositions of brass and bronze, etc. Single cut. Edges are safe or uncut.

Packed 6 in a box.

Length.....inches	10	12	14
Per Dozen.....	\$11.60	15.90	21.60
Dimensions.....inches	$1 \times \frac{1}{4}$	$1\frac{1}{2} \times \frac{3}{16}$	$1\frac{11}{32} \times \frac{3}{16}$
Approx. Wt. per Doz.....pounds	7	$11\frac{1}{16}$	$18\frac{1}{2}$

Nicholson Pillar Files



Has one safe edge.

Packaging: 6, 8 and 10-inch size, 12 in a box; 12-inch size, 6 in a box.

Length.....inches	6	8	10	12
Dimensions.....inches	$\frac{1}{16} \times \frac{7}{32}$	$\frac{9}{16} \times \frac{9}{32}$	$\frac{21}{32} \times \frac{11}{32}$	$\frac{25}{32} \times \frac{13}{32}$
Approx. Wt. per Dozen..lb.	$1\frac{13}{16}$	$3\frac{9}{16}$	$6\frac{13}{16}$	$11\frac{9}{16}$

Bastard

Length.....inches	6	8	10	12
Per Dozen.....	\$5.80	7.30	10.10	14.50

Second Cut

Length.....inches	6	8	10	
Per Dozen.....	\$6.90	8.50	11.80	

Smooth

Length.....inches	6	8	10	
Per Dozen.....	\$7.60	9.10	12.70	

Nicholson Warding Files



For use in narrow spaces where other files will not fit.

Double cut on sides, single cut on edges.

Packed 12 in a box.

Length.....inches	4	6	8	10
Dimensions.....inches	$\frac{15}{32} \times \frac{3}{64}$	$\frac{5}{8} \times \frac{5}{64}$	$\frac{25}{32} \times \frac{3}{32}$	$\frac{15}{16} \times \frac{1}{8}$
Approx. Wt. per Dozen.....lb.	$\frac{9}{16}$	$\frac{3}{4}$	$1\frac{1}{16}$	$2\frac{7}{8}$

Bastard

Length.....inches	4	6	8	10
Per Dozen.....	\$5.40	6.60	8.60	11.80

Second Cut

Length.....inches	4	6	8	10
Per Dozen.....	\$6.50	8.00	10.10	13.60

Smooth

Length.....inches	4	6	8	10
Per Dozen.....	\$7.30	8.60	11.10	14.90

Nicholson Knife Files



Used by tool and die makers. Double cut. Has cut edges.

Packed 12 in a box.

Length.....inches	4	6	8	10
Bastard.....per dozen	\$7.30	\$9.30	\$11.50	\$13.60
Second Cut.....per dozen	8.20	10.10	12.30	15.50
Smooth.....per dozen	8.60	10.70	12.80	16.60
Dimensions.....inches	$1\frac{5}{32} \times 7\frac{1}{64}$	$3\frac{1}{32} \times 5\frac{5}{32}$	$2\frac{7}{32} \times 3\frac{3}{16}$	$1\frac{1}{32} \times 1\frac{1}{4}$
Approx. Wt., per Doz....lb.	$\frac{7}{16}$	1	$2\frac{3}{16}$	$4\frac{3}{16}$

Nicholson Files
For Stainless Steel

The chromium and nickel content of stainless steels makes them tough and dense, and causes them to have an abrasive action that tends to shorten the life of the general purpose file. Edges cut.

Thus a new file for stainless steel has been developed. Properly used with a light pressure and a slow, steady stroke, this new file removes the metal rapidly, requires little effort and leaves a good finish.

The words "For Stainless Steel" are stamped on each file.

These files are furnished in all the regular shapes, sizes and cuts, at no advance over the regular prices for the regular item.

Type A Aluminum Files

For filing aluminum or aluminum alloy castings; will cut rapidly without clogging. Has cut edges. Made in flat and half round shapes, of one coarseness of cut. Sizes 6 and 8-inch packed 12 in a box; 10-inch and larger packed 6 in a box.

Half Round



Half rounds, 10 inches and under, have fine points to file corners and crevices of small castings.

Length.....inches	6	8	10	12	14
Per Dozen.....	\$14.20	16.20	18.20	21.60	27.00

Flat



Edges cut.

Length.....inches	6	8	10	12	14
Per Dozen.....	\$7.20	9.50	11.50	14.90	19.60

Nicholson Files
For Filing Die Castings

Has extra strong teeth on sides, corners and edges to resist shelling off and breaking out. Teeth are specially designed to file die castings without clogging.

Words "Die Cast Files" stamped on the shoulder.

Mill—Bastard Cut

Length.....inches	6	8	10	12	14
Per Dozen.....	\$4.70	5.80	7.60	10.10	14.50
Width.....inches	$\frac{19}{32}$	$\frac{25}{32}$	$\frac{31}{32}$	$\frac{15}{32}$	$\frac{15}{16}$
Thick.....inches	$\frac{7}{64}$	$\frac{9}{64}$	$\frac{11}{64}$	$\frac{7}{32}$	$\frac{1}{4}$
No. per Box.....	12	12	12	6	6

Half Round—Smooth

Length.....inches	6	8	10	12	14
Per Dozen.....	\$9.60	12.00	14.50	18.80	24.70
Width.....inches	$\frac{9}{32}$	$\frac{3}{4}$	$\frac{15}{16}$	$\frac{1}{8}$	$\frac{19}{32}$
Thick.....inches	$\frac{5}{32}$	$\frac{7}{32}$	$\frac{9}{32}$	$\frac{11}{32}$	$\frac{13}{32}$
No. per Box.....	12	12	6	6	6

Nicholson Foundry Files



For snagging castings and other heavy work. Double cut edges.

Packed: 8-inch, 12 in a box; 10-inch and over, 6 in a box.

Flat Bastard

Size.....inches	8	10	12	14
Per Dozen.....	\$7.20	9.50	13.10	18.00
Approximate Size.....inches	$2\frac{5}{32} \times 7\frac{1}{32}$	$3\frac{1}{32} \times 1\frac{1}{4}$	$1\frac{5}{32} \times 3\frac{3}{32}$	$1\frac{11}{32} \times 1\frac{3}{16}$
Approx. Wt. per Doz.....pounds	$3\frac{5}{8}$	7	$11\frac{9}{16}$	$18\frac{1}{2}$

Half Round Bastard

Size.....inches	8	10	12	14
Per Dozen.....	\$10.10	12.30	15.90	20.90
Approximate Size.....inches	$\frac{3}{4} \times 7\frac{1}{32}$	$1\frac{5}{16} \times 9\frac{3}{32}$	$1\frac{1}{8} \times 1\frac{11}{32}$	$1\frac{9}{32} \times 1\frac{13}{32}$
Approx. Wt. per Doz.....pounds	$3\frac{1}{8}$	$5\frac{13}{16}$	$9\frac{7}{8}$	16

Nicholson Lead Float Files



Has cut edges.

Flat

Length.....inches	8	10	12
Per Dozen.....	\$8.50	11.60	15.90
Dimensions.....inches	$1\frac{13}{16} \times 7\frac{1}{32}$	$1 \times 1\frac{1}{4}$	$1\frac{13}{16} \times 1\frac{1}{4}$
No. in Box.....	12	6	6
Weight per Dozen.....pounds	$3\frac{3}{8}$	7	$11\frac{9}{16}$

Half Round

Length.....inches	8	10	12
Per Dozen.....	\$11.50	14.50	19.00
Dimensions.....	$\frac{3}{4} \times 7\frac{1}{32}$	$1\frac{5}{16} \times 9\frac{3}{32}$	$1\frac{1}{8} \times 1\frac{11}{32}$
No. in Box.....	12	6	6
Weight per Dozen.....pounds	$3\frac{3}{16}$	$5\frac{7}{8}$	10

Nicholson Taper Files



Made for filing all types of handsaws with 60° angle teeth. Single cut. Edges are set and cut for filing the gullet between saw teeth.

Packed 12 in a box.

Taper

Length.....inches	6	7	8	10
Per Dozen.....	\$4.60	5.80	7.30	10.90
Width.....inches	$\frac{15}{32}$	$\frac{17}{32}$	$\frac{19}{32}$	$\frac{23}{32}$
Approx. Wt. per Doz.....pounds	2	$3\frac{1}{8}$	$4\frac{1}{4}$	$7\frac{1}{2}$

Slim Taper

Length.....inches	4	5	*6	*7	8	10
Per Dozen.....	\$3.00	3.40	4.20	5.10	6.10	8.60
Width.....inches	$\frac{7}{32}$	$\frac{9}{32}$	$\frac{11}{32}$	$\frac{13}{32}$	$\frac{15}{32}$	$\frac{5}{8}$
Approx. Wt. per Doz.....pounds	$\frac{5}{16}$	$\frac{9}{16}$	$\frac{15}{16}$	$1\frac{11}{16}$	$2\frac{11}{16}$	$4\frac{7}{8}$

Extra Slim Taper

Length.....inches	4	5	$5\frac{1}{2}$	*6	*7	8
Per Dozen.....	\$3.00	3.40	3.90	4.20	5.10	6.10
Width.....inches	$\frac{5}{16}$	$\frac{7}{16}$	$\frac{1}{4}$	$\frac{9}{32}$	$\frac{5}{16}$	$\frac{13}{32}$
Approx. Wt. per Doz.....pounds	$\frac{1}{4}$	$\frac{7}{16}$	$\frac{9}{16}$	$1\frac{1}{16}$	$1\frac{1}{8}$	2

Double Extra Slim Taper

Length.....inches	4	5	*6	*7	†8
Per Dozen.....	\$3.00	3.40	4.20	5.10	6.10
Width.....inches	$\frac{5}{32}$	$\frac{3}{16}$	$\frac{7}{32}$	$\frac{1}{4}$	$\frac{5}{16}$
Approx. Wt. per Doz....lb.	$\frac{3}{16}$	$\frac{5}{16}$	$\frac{7}{16}$	$1\frac{1}{16}$	$1\frac{1}{16}$

*Furnished in Grade A Brand double cut at same price as single cut.

†Can be furnished in $\frac{1}{4}$ inch at \$6.10 per dozen and $\frac{3}{16}$ inch at \$8.60 per dozen.

Nicholson Band Saw Blunt Files

For sharpening band saws with well rounded gullets between saw teeth. Single cut. Has cut edges.

Packed 12 in a box.

Regular

Length.....inches	6	8
Per Dozen.....	\$6.40	9.10
Approx. Width.....inches	$\frac{1}{2}$	$\frac{5}{8}$
Approx. Weight per Dozen.....pounds	$2\frac{3}{8}$	$4\frac{3}{4}$

Slim

Length.....inches	6	8
Per Dozen.....	\$5.30	7.20
Approx. Width.....inches	$\frac{3}{8}$	$\frac{1}{2}$
Approx. Weight per Dozen.....pounds	$1\frac{1}{8}$	$3\frac{1}{16}$

Nicholson Cantsaw Files

Single cut. Packed 12 in a box.

Length.....inches	6	8	10
Per Dozen.....	\$7.30	8.60	11.80
Dimensions.....inches	$1\frac{17}{32} \times 1\frac{15}{64}$	$1\frac{11}{16} \times \frac{9}{32}$	$1\frac{13}{16} \times 1\frac{11}{32}$
Approx. Weight per Dozen.....lb.	$1\frac{1}{16}$	$2\frac{13}{16}$	$5\frac{3}{8}$

Nicholson Round Chain Saw Files

For sharpening chain saw teeth with rounded edges. Length, 8 inches. Packed 12 in a box.

	Chisel Cut			Etched Cut		
	84	85	86	284	285	286
No.....						
Per Dozen.....	\$8.00	8.60	9.20	14.00	14.00	14.00
Diameter.....in.	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$
Approx. Wt. per Doz. lb.	$1\frac{1}{2}$	$2\frac{3}{16}$	3	$1\frac{1}{2}$	$2\frac{3}{16}$	3

Nicholson Crosscut Files

Rounded back is used to deepen grounded gullets of saw teeth. Single cut. Packed 12 in a box.

Length.....inches	8	10
Per Dozen.....	\$10.10	12.30
Dimensions.....inches	$1\frac{11}{16} \times \frac{9}{32}$	$1\frac{13}{16} \times 2\frac{3}{64}$
Approx. Wt., per Dozen.....pounds	$3\frac{3}{8}$	6

Nicholson Hand Files

One safe edge.

Lgth.	Width	Thick-	No.	Wt., Lb.	Lgth.	Width	Thick-	No.	Wt., Lb.
in.	in.	ness	in	per	in.	in.	ness	in	per
			Box	Dozen				Box	Dozen
6	$\frac{5}{8}$	$\frac{5}{32}$	12	$2\frac{1}{4}$	12	$1\frac{1}{2}$	$\frac{9}{32}$	6	$14\frac{5}{16}$
8	$2\frac{25}{32}$	$\frac{7}{32}$	12	$4\frac{11}{16}$	14	$1\frac{11}{32}$	$\frac{5}{16}$	6	$21\frac{5}{16}$
10	$3\frac{1}{32}$	$\frac{1}{4}$	6	$8\frac{7}{8}$	16	$1\frac{17}{32}$	$1\frac{1}{32}$	6	$31\frac{1}{2}$

Bastard

Length.....inches	6	8	10	12	14
Per Dozen.....	\$5.80	7.30	10.10	14.50	20.30

Second Cut

Length.....inches	6	8	10	12	14
Per Dozen.....	\$6.90	8.50	11.80	16.60	23.00

Smooth Cut

Length.....inches	6	8	10	12	14
Per Dozen.....	\$7.60	9.00	12.70	18.20	24.60

Nicholson Double Ender Files

Cut from middle to both ends. Six handles supplied with each dozen files. Packed 12 in a box.

Length.....inches	6	7	8	9	10
Per Dozen.....	\$4.70	4.70	5.30	5.90	6.60
Approx. Width.....inches	$\frac{13}{64}$	$\frac{7}{32}$	$\frac{9}{32}$	$1\frac{11}{32}$	$\frac{3}{8}$
Approx. Weight per Doz. lb.	$\frac{3}{4}$	$\frac{3}{4}$	$1\frac{1}{16}$	$1\frac{15}{16}$	$2\frac{3}{8}$

Nicholson Half Round Wood Rasps



Used by woodworkers, wheelwrights and plumbers.

Sizes 8-inch and shorter are packed 1 dozen in a box. Longer rasps are packed 6 in a box.

Length.....inches	6	8	10	12	14	16
Width.....inches	$\frac{19}{32}$	$\frac{25}{32}$	$\frac{31}{32}$	$\frac{15}{32}$	$1\frac{11}{32}$	$1\frac{17}{32}$
Thick.....inches	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$
Dozen.....pounds	$1\frac{1}{2}$	$3\frac{1}{4}$	6	$10\frac{3}{8}$	$16\frac{3}{4}$	$24\frac{1}{8}$

Bastard

Length.....inches	6	8	10	12	14	16
Per Dozen.....	\$10.90	13.60	18.50	25.30	33.50	44.40

Smooth

Length.....inches	6	8	10	12	14	16
Per Dozen.....	\$18.50	25.30	33.50	.....	.....	.....

Nicholson Flat Wood Rasps



Used by woodworkers, wheelwrights, and plumbers. Cut edges.

Size 8-inch packed 12 in a box; 10-inch and larger, 6 in a box.

Length.....inches	8	10	12	14	16
Width.....inches	$\frac{25}{32}$	$\frac{31}{32}$	$\frac{15}{32}$	$1\frac{11}{32}$	$1\frac{17}{32}$
Thickness.....inches	$\frac{9}{32}$	$\frac{11}{32}$	$\frac{13}{32}$	$\frac{15}{32}$	$\frac{17}{32}$
Approx. Wt., per Doz. lb.	$3\frac{3}{16}$	7	$11\frac{1}{8}$	$18\frac{11}{16}$	$26\frac{1}{2}$

Bastard

Length.....inches	8	10	12	14	16
Per Dozen.....	\$12.70	17.30	23.60	31.30	41.60

Smooth

Length.....inches	8	10	12	14	16
Per Dozen.....	\$17.30	23.60	31.30	41.60	55.20

Nicholson Cabinet Rasps



Used by cabinetmakers and woodworkers.

Packed 6 and 8-inch lengths, 12 in a box; 10, 12, and 14-inch lengths, 6 in a box.

Length.....inches	6	8	10	12	14
Second Cut...per doz.	\$13.60	\$17.30	\$23.60	\$30.80	\$40.00
Smooth.....per doz.	15.80	20.90	28.00	36.20	45.80
Width.....inches	$\frac{11}{16}$	$\frac{29}{32}$	$\frac{1}{8}$	$1\frac{11}{32}$	$\frac{19}{16}$
Thickness.....inches	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{9}{32}$	$\frac{11}{32}$	$\frac{3}{8}$
Approx. Wt. per Doz. lb.	$1\frac{3}{8}$	$2\frac{13}{16}$	$4\frac{13}{16}$	$8\frac{3}{8}$	$13\frac{11}{16}$

Superior Plain Horse Rasps



Edges cut. Rasp one side, file cut on other. 6 in box.

Length.....inches	12	14	16
Per Dozen.....	\$10.30	15.00	20.60
Dimensions.....inches	$1\frac{19}{32} \times 1\frac{1}{32}$	$1\frac{17}{32} \times \frac{3}{8}$	$1\frac{23}{32} \times \frac{1}{16}$
Weight per Dozen.....pounds	$13\frac{3}{4}$	$17\frac{5}{8}$	$26\frac{11}{16}$

Nicholson Tungsten Point Files



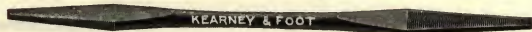
For dressing distributor points tipped with tungsten, iridium and similar metals.

Chisel tip of file enters slots or gaps easily. Extreme end of orange handle is a thickness gauge for spark plugs.

Overall length, $5\frac{1}{4}$ inches; double cut. Approximate size, $\frac{5}{16} \times .044$ inches.

Boxed, 1 Dozen in a Box, Weight per Gross, $2\frac{5}{8}$ Pounds..... per gross **\$16.50**
 Carded, 1 Dozen Mounted on a Card, Weight per Gross, $3\frac{3}{8}$ Pounds..... per gross **17.75**

Kearney & Foot Auger Bit Files



A double end file with both ends flat and tapered to a fairly sharp point; $\frac{1}{4}$ inch wide at widest part and $\frac{1}{16}$ inch wide at the points. One end cut on the sides with safe edges; the other end cut on the edges with safe sides.

Approximate size, $1\frac{1}{2} \times \frac{1}{16}$ inch. Length overall, 7 inches. Weight per Dozen, 9 Ounces..... per dozen **\$6.00**

Nicholson Shear Tooth Files
Single Cut

Flat

Designed for aluminum, copper, brass and similar metals. Can also be used on cast iron and steel. Cuts rapidly and leaves a very smooth finish. Edges are cut.

Flat	6	8	10	12	14
Length.....inches	6	8	10	12	14
Per Dozen.....	\$5.80	7.20	9.50	13.10	18.00
Width.....inches	$\frac{5}{8}$	$\frac{25}{32}$	$\frac{31}{32}$	$\frac{15}{32}$	$1\frac{11}{32}$
Thickness.....inches	$\frac{3}{32}$	$\frac{7}{32}$	$\frac{1}{4}$	$\frac{9}{32}$	$\frac{5}{16}$

Half Round	6	8	10	12	14
Length.....inches	6	8	10	12	14
Per Dozen.....	\$8.20	10.10	12.30	15.90	20.90
Width.....inches	$\frac{19}{32}$	$\frac{3}{4}$	$\frac{15}{16}$	$1\frac{1}{8}$	$1\frac{9}{16}$
Thickness.....inches	$\frac{5}{32}$	$\frac{7}{32}$	$\frac{9}{32}$	$\frac{11}{32}$	$\frac{13}{32}$

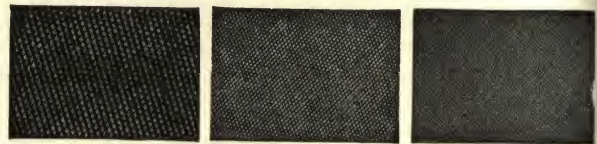
Nicholson Super-Shear Files
Curved Tooth

For wide industrial usage: on the flat and convex surfaces of aluminum, brass, babbitt, bronze, copper, magnesium, cast iron and soft metal alloys; on plastics, hard rubber and hardwood.

	6	8	10	12	14
Length.....inches	6	8	10	12	14
Standard.....per dozen	\$18.70	\$22.80	\$27.40	\$32.30	
Fine.....per dozen	21.60	26.20	31.00	36.10	
Smooth.....per dozen	23.60	28.10	32.50	37.70	
Teeth per Inch					
Standard.....	14	12	10	8	
Fine.....	16	14	14	12	
Smooth.....	18	18	16	15	
Dimensions.....inches	$\frac{13}{16} \times \frac{11}{64}$	$1 \times \frac{7}{32}$	$1\frac{1}{2} \times \frac{17}{64}$	$1\frac{11}{16} \times \frac{5}{16}$	
No. in Box.....	12	6	6	6	
Approx. Wt. per Doz. pounds	$2\frac{3}{4}$	$5\frac{7}{8}$	$9\frac{9}{16}$	17	

Nicholson X. F. Swiss Pattern Files

Comparative Cuts



No. 00

No. 0

No. 1



No. 2



No. 3



No. 4



No. 6

X. F. is a term given to a brand of Nicholson files, and signifies extra fine. In general it is applied to all files manufactured in accordance with Swiss designs or patterns, or that class of files used by jewelers, watchmakers and tool-makers, and for similar fine work in which the best material and superior workmanship are required.

The cuts are designated by numbers ranging from No. 00, the coarsest, to No. 6, the finest.

Nicholson Beaver Curved Tooth Files

Used by the automobile manufacturing and repairing trade on aluminum and sheet steel. Also used on soft metals such as brass and babbitt and often on iron and steel. Because of the curved teeth, this file frees itself readily of chips.

Packed 6 in a box.

Flat Tanged Files



	10	12	14
Length.....inches	10	12	14
Per Dozen.....	\$9.00	11.30	15.50
Approx. Size.....inches	$1\frac{1}{4} \times \frac{3}{16}$	$1\frac{1}{4} \times \frac{3}{16}$	$1\frac{1}{4} \times \frac{3}{16}$
Approx. Wt., per Doz.....lb.	$9\frac{3}{4}$	$11\frac{1}{2}$	$13\frac{1}{2}$

Half Round Tanged Files



	10	12	14
Length.....inches	10	12	14
Per Dozen.....	\$11.80	14.70	18.80
Approx. Size.....inches	$1\frac{1}{8} \times \frac{11}{32}$	$1\frac{1}{8} \times \frac{3}{8}$	$1\frac{19}{64} \times \frac{3}{8}$
Approx. Wt., per Doz.....lb.	$9\frac{1}{4}$	11	$16\frac{1}{4}$

Flexible Blade Files



The 12-inch length has countersunk holes approximately 11 inches between centers and the 14-inch has countersunk holes approximately 13 inches between centers. Beaver wooden holder for 12-inch and 14-inch, \$12.70 per dozen.

	10	12	14
Length.....inches	10	12	14
Per Dozen.....	\$10.50	13.10	17.40
Approx. Size.....inches	$1\frac{11}{16} \times \frac{3}{16}$	$1\frac{11}{16} \times \frac{3}{16}$	$1\frac{11}{16} \times \frac{3}{16}$
Approx. Wt., per Doz.....lb.	$5\frac{1}{2}$	$6\frac{1}{4}$	$8\frac{1}{4}$

Nicholson X.F. Swiss Pattern Hand Files

Double cut sides. Cuts Nos. 00 to 2, have one safe edge; cuts Nos. 3 to 6, two safe edges.

Packed 12 in box, 3, 4, 6-inch lengths; others, 6 in box.

Lgth. In.	PER DOZEN CUT				Size Inches	Approx. Wt., Lb. per Dozen
	00 & 0	1 & 2	3 & 4	6		
3	\$7.80	\$8.20	\$9.00	.....	$\frac{7}{16} \times \frac{3}{64}$	$\frac{1}{16}$
4	7.80	8.20	9.00	.....	$\frac{17}{32} \times \frac{7}{64}$	$\frac{7}{8}$
6	10.30	11.40	13.20	\$16.00	$\frac{29}{32} \times \frac{9}{32}$	$\frac{25}{16}$
8	14.80	16.20	18.10	20.80	$\frac{29}{32} \times \frac{1}{16}$	$\frac{49}{16}$
10	19.60	21.80	24.10	.....	$\frac{11}{16} \times \frac{1}{32}$	8
12	25.80	29.00	*32.40	.....	$\frac{1}{32} \times \frac{1}{4}$	$14\frac{1}{2}$

Nicholson X.F. Swiss Pattern Pillar Files

Double cut on two sides only. Edges are safe.

Packed 12 in box, 3 to 10-inch lengths; others, 6 in box.

Lgth. In.	PER DOZEN CUT				Size Inches	Approx. Wt., Lb. per Dozen
	00 & 0	1 & 2	3 & 4	6		
3	\$7.00	\$7.10	\$7.90	.....	$\frac{19}{64} \times \frac{5}{64}$	$\frac{5}{16}$
4	7.00	7.10	7.90	\$9.80	$\frac{23}{64} \times \frac{7}{64}$	$\frac{5}{8}$
6	7.90	8.50	9.80	.....	$\frac{15}{32} \times \frac{9}{64}$	$1\frac{5}{8}$
8	11.00	11.90	13.80	.....	$\frac{39}{64} \times \frac{13}{64}$	$3\frac{1}{2}$
10	15.20	16.10	*19.30	.....	$\frac{47}{64} \times \frac{15}{64}$	$6\frac{3}{16}$
12	20.70	22.60	*25.70	.....	$\frac{53}{64} \times \frac{17}{64}$	$9\frac{3}{4}$

Nicholson X.F. Swiss Pattern Pillar Narrow Files

Double cut on two sides only. Edges are safe.

Packed 12 in box, 3, 4, 6-inch lengths; others, 6 in box.

Lgth. In.	PER DOZEN CUT				Size Inches	Approx. Wt., Lb. per Dozen
	00 & 0	1 & 2	3 & 4	6		
3	\$7.00	\$7.10	\$7.90	\$9.80	$\frac{7}{32} \times \frac{5}{64}$	$\frac{1}{4}$
4	7.00	7.10	7.90	9.80	$\frac{9}{32} \times \frac{7}{64}$	$\frac{1}{2}$
6	7.90	8.50	9.80	12.20	$\frac{23}{64} \times \frac{9}{64}$	$1\frac{1}{4}$
8	11.00	11.90	13.80	.....	$\frac{29}{64} \times \frac{13}{64}$	$2\frac{5}{8}$
10	15.20	16.10	*19.30	.....	$\frac{9}{16} \times \frac{17}{64}$	$5\frac{9}{16}$
12	20.70	22.60	*25.70	.....	$\frac{5}{8} \times \frac{5}{16}$	$8\frac{1}{2}$

Nicholson X.F. Swiss Pattern Pillar Extra Narrow Files

Cuts on two sides only. Edges are safe.

Packed 12 in a box.

Lgth. In.	PER DOZEN CUT				Size Inches	Approx. Wt., Lb. per Dozen
	00 & 0	1 & 2	3 & 4	6		
3	\$7.00	\$7.10	\$7.90	\$9.80	$\frac{3}{64} \times \frac{3}{32}$	$\frac{3}{16}$
4	7.00	7.10	7.90	9.80	$\frac{11}{64} \times \frac{7}{64}$	$\frac{5}{8}$
6	7.90	8.50	9.80	12.20	$\frac{1}{4} \times \frac{9}{64}$	$1\frac{5}{16}$
8	11.00	11.90	13.80	.....	$\frac{5}{16} \times \frac{13}{64}$	$1\frac{15}{16}$
10	15.20	16.10	*19.30	.....	$\frac{3}{8} \times \frac{15}{64}$	$3\frac{11}{16}$
12	20.70	22.60	*25.70	.....	$\frac{7}{16} \times \frac{1}{4}$	6

*Cut No. 4 only.

Nicholson X.F. Swiss Pattern Square Files

Double cut on all sides. One safe side when ordered.
Packed 12 in a box.

Length.....inches	3	4	6	8	10	12
Cuts 00 & 0						
.....per doz.	\$7.20	\$8.00	\$10.60	\$12.60	\$15.60	\$18.50
Cuts 1 & 2 per doz.	7.30	8.40	11.40	14.30	19.00	23.50
Cut 3....per doz.	7.60	9.20	13.10	17.60	.....	.....
Cut 4....per doz.	7.60	9.20	13.10	17.60	22.70	29.40
Width.....inches	$\frac{1}{16}$	$\frac{1}{64}$	$\frac{5}{32}$	$\frac{15}{64}$	$\frac{21}{64}$	$\frac{27}{64}$
Approx. Wt.						
Doz....pounds	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{5}{8}$	$1\frac{1}{2}$	3	$6\frac{3}{16}$

Nicholson X.F. Swiss Pattern Round Files

Double cut. Taper throughout length to a fine point.
Packed 12 in a box.

Lgth. In.	PER DOZEN CUT				Diam. Inches	Approx. Wt., Lb. per Dozen
	00 & 0	1 & 2	3	6		
3	\$5.90	\$6.40	\$6.90	\$6.90	$\frac{3}{32}$	$\frac{1}{16}$
4	6.60	7.10	7.60	7.60	$\frac{1}{8}$	$\frac{1}{4}$
5	7.20	7.80	8.40	8.40	$\frac{5}{32}$	$\frac{3}{8}$
6	8.40	9.20	10.10	10.10	$\frac{3}{16}$	$1\frac{1}{16}$
8	12.20	13.10	13.90	13.90	$\frac{1}{4}$	$1\frac{5}{16}$
10	16.40	18.10	.....	20.20	$\frac{21}{64}$	$2\frac{1}{16}$
12	21.00	23.80	.....	28.80	$\frac{27}{64}$	$4\frac{5}{8}$

Nicholson X.F. Swiss Pattern Half Round Files

Double cut on both flat and half round sides.
Packed 12 in box, 3 to 6-inch lengths; others 6 in box.

Lgth. In.	PER DOZEN CUT				Size Inches	Approx. Wt., Lb. per Dozen
	00 & 0	1 & 2	3	6		
3	\$9.50	\$10.60	\$12.40	\$12.40	$\frac{9}{32} \times \frac{3}{32}$	$\frac{1}{4}$
4	10.70	12.60	14.50	14.50	$\frac{3}{8} \times \frac{7}{64}$	$\frac{1}{2}$
5	12.40	14.80	17.00	17.00	$\frac{7}{16} \times \frac{9}{64}$	$\frac{3}{4}$
6	14.30	16.80	19.30	19.30	$\frac{33}{64} \times \frac{9}{64}$	$1\frac{1}{4}$
8	21.00	23.80	26.60	26.60	$\frac{45}{64} \times \frac{13}{64}$	$2\frac{1}{16}$
10	28.00	30.70	35.30	35.30	$\frac{15}{16} \times \frac{17}{64}$	$6\frac{3}{16}$
12	36.10	38.60	.....	43.90	$\frac{17}{64} \times \frac{5}{16}$	$9\frac{1}{2}$

Nicholson X.F. Swiss Pattern Crossing Files

Double cut. Taper to a point in both width and thickness.
Packed 12 in box, 3, 4, 6-inch lengths; others 6 in box.

Lgth. In.	PER DOZEN CUT				Size Inches	Approx. Wt., Lb. per Dozen
	00 & 0	1 & 2	3 & 4	6		
3	\$12.20	\$13.10	\$15.00	\$18.20	$\frac{5}{16} \times \frac{3}{32}$	$\frac{1}{4}$
4	13.10	14.50	16.90	21.10	$\frac{7}{16} \times \frac{1}{8}$	$\frac{5}{8}$
6	17.80	20.20	22.90	28.10	$\frac{5}{8} \times \frac{3}{16}$	$1\frac{7}{8}$
8	26.50	29.00	32.40	.....	$\frac{13}{16} \times \frac{1}{4}$	4
10	35.20	38.40	44.50	.....	$\frac{3}{2} \times \frac{3}{32}$	$6\frac{1}{8}$

Nicholson X.F. Swiss Pattern Knife Files



Taper in width and thickness to a point. Double cut on both sides and single cut on the edges.
Packed 12 in a box.

Length.....inches	3	4	5	6	8
Cuts 00 & 0.....per doz.	\$9.00	\$10.00	\$10.80	\$13.60	\$19.30
Cut 1.....per dozen	11.30	11.30	12.60	17.50	22.10
Cut 2.....per dozen	10.00	11.30	12.60	17.50	22.10
Cut 3.....per dozen	12.60	12.60	18.00	25.70	
Cut 4.....per dozen	10.80	12.60	14.90	18.00	25.70
Width.....inches	$\frac{3}{8}$	$\frac{31}{64}$	$\frac{9}{16}$	$\frac{21}{32}$	$\frac{27}{32}$
Approx. Wt. Doz.....lb.	$\frac{1}{4}$	$\frac{1}{16}$	$\frac{11}{16}$	$\frac{11}{8}$	$\frac{23}{16}$

Nicholson X.F. Swiss Pattern Barrette Files



Wide flat sides are double cut; back and beveled edges uncut.

Packed 12 in box, 3 to 6-inch lengths; others 6 in box.

Length.....inches	3	4	6	8
Cuts 00 & 0.....per dozen	\$10.60	\$11.50	\$13.90	\$18.10
Cuts 1 & 2.....per dozen	10.70	11.80	14.80	19.30
Cut 4.....per dozen	11.20	12.20	16.00	21.00
Width.....inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{21}{32}$	$\frac{7}{8}$
Approx. Wt. per Dozen.....lb.	$\frac{3}{16}$	$\frac{9}{16}$	$\frac{15}{16}$	$\frac{27}{8}$

Nicholson X.F. Swiss Pattern Equaling Files



Double cut on two sides, and single cut on both edges.
Packed 12 in box, 3 to 6-inch lengths; others 6 in box.

Length.....inches	3	4	6	8
Cuts 00 & 0.....per dozen	\$7.00	\$7.90	\$9.70	\$13.20
Cuts 1 & 2.....per dozen	7.70	8.80	10.80	14.60
Cut 4.....per dozen	8.60	9.70	12.30	16.70
Size.....inches	$\frac{5}{16} \times \frac{1}{16}$	$\frac{13}{32} \times \frac{3}{64}$	$\frac{19}{32} \times \frac{7}{64}$	$\frac{3}{4} \times \frac{3}{64}$
Approx. Wt. Dozen.....lb.	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{15}{16}$	$\frac{35}{16}$

Nicholson X.F. Swiss Pattern Warding Files



Taper slightly in thickness and to a point in width.
Double cut.

Packed 12 in a box.

Length.....inches	3	4	
Cuts 00 & 0.....per dozen	\$6.20	\$7.00	
Cuts 1 & 2.....per dozen	6.70	7.90	
Cut 4.....per dozen	7.30	9.10	
Size.....inches	$\frac{13}{32} \times \frac{1}{32}$	$\frac{7}{16} \times \frac{3}{64}$	
Approx. Wt. Dozen.....lb.	$\frac{3}{16}$	$\frac{5}{16}$	
Length.....inches	6	8	10
Cuts 00 & 0.....per dozen	\$10.20	\$13.70	\$18.10
Cuts 1 & 2.....per dozen	11.70	15.20	20.90
Cut 4.....per dozen	13.50	17.90	25.30
Size.....inches	$\frac{19}{32} \times \frac{5}{64}$	$\frac{25}{32} \times \frac{3}{32}$	$\frac{15}{16} \times \frac{7}{64}$
Approx. Wt. Dozen.....lb.	$\frac{19}{16}$	$\frac{15}{8}$	$\frac{215}{16}$

Nicholson X.F. Swiss Pattern Three-Square Files



Double cut on three sides, and single cut on edges.
Packed 12 in box, 3 to 6-inch lengths; others 6 in box.

Length.....inches	3	4	5	6	8	10
Cuts 00 & 0.....per doz.	\$8.20	\$8.20	\$9.00	\$10.10	\$13.10	\$17.60
Cuts 1 & 2.....per doz.	8.90	8.90	9.80	10.90	14.30	19.10
Cut 3.....per doz.	9.50	9.50	12.40	16.00		
Cut 4.....per doz.	9.50	9.50	10.90	12.40	16.00	21.80
Width.....inches	$\frac{5}{32}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{11}{32}$	$\frac{15}{32}$	$\frac{19}{32}$
Approx. Wt. Doz.lb.	$\frac{3}{16}$	$\frac{3}{8}$	$\frac{11}{16}$	$\frac{11}{16}$	$\frac{25}{8}$	$\frac{41}{16}$

Nicholson X.F. Swiss Pattern Round Straight Files



Double cut. Parallel throughout their length.
Packed 12 in a box.

Length.....inches	4	5	6	8
Cuts 00 & 0.....per dozen	\$6.60	\$7.30	\$8.90	\$14.00
Cut 2.....per dozen	7.10	8.20	10.10	15.60
Cut 4.....per dozen	7.60	9.00	11.40	17.30
Width.....inches	$\frac{1}{8}$	$\frac{5}{32}$	$\frac{3}{16}$	$\frac{1}{4}$
Approx. Wt. per Doz....pounds	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{7}{8}$	$1\frac{3}{4}$

Nicholson X.F. Swiss Pattern Metal Saw Files



Double cut on three sides, and single cut on edges.
Packed 12 in box, 3 to 6-inch lengths; others 6 in box.

Length.....inches	3	4	5	6	8
Cut 0.....per dozen	\$8.20	\$8.20	\$9.00	\$10.10	\$13.10
Cut 2.....per dozen	8.90	8.90	9.90	10.90	14.30
Cut 4.....per dozen	9.50	9.50	10.90	12.40	16.00
Width.....inches	$\frac{5}{32}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{11}{32}$	$\frac{15}{32}$
Approx. Wt. per Doz...lb.	$\frac{3}{16}$	$\frac{7}{16}$	$\frac{13}{16}$	$\frac{17}{4}$	$\frac{35}{16}$

Nicholson X.F. Swiss Pattern Crochet Files



Flat with two rounded edges. Double cut on flat sides and both edges.

Packed 12 in box, 3 to 6-inch lengths; others 6 in box.

Length.....inches	3	4	6	8	10
Cuts 00 & 0.....per doz.	\$9.50	\$10.60	\$14.30	\$20.20	\$26.90
Cuts 1 & 2.....per doz.	10.10	11.40	15.60	21.80	29.00
Cut 4.....per doz.	11.40	12.60	17.30	23.50	31.10
Size.....inches	$\frac{17}{64} \times \frac{5}{64}$	$\frac{3}{8} \times \frac{3}{32}$	$\frac{31}{64} \times \frac{1}{8}$	$\frac{11}{16} \times \frac{5}{32}$	$\frac{13}{16} \times \frac{3}{16}$
Approx. Wt. Doz....lb.	$\frac{1}{4}$	$\frac{7}{16}$	$\frac{11}{16}$	$\frac{27}{16}$	4

Nicholson X.F. Swiss Pattern Slitting Files



Double cut on four sides and single cut on two sharp edges.
Packed 12 in a box.

Length.....inches	4	6
Cuts 00 & 0.....per dozen	\$11.80	\$18.50
Cut 2.....per dozen	13.90	21.00
Width.....inches	$\frac{7}{16}$	$\frac{5}{8}$
Approx. Weight per Dozen.....pounds	$\frac{3}{8}$	$\frac{7}{8}$

Nicholson X.F. Swiss Pattern Joint Files

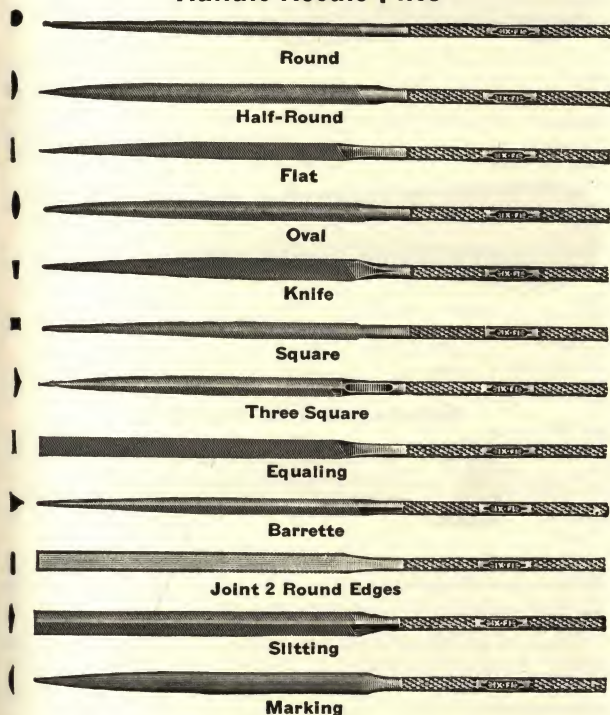


Double cut on edges only. Sides are safe. Furnished in cuts Nos. 0 and 2.

Packed 12 in a box.

Length.....inches	4	6
Round Edge.....per dozen	\$7.20	\$10.90
Square Edge.....per dozen	6.70	10.60
Size:		
Thick.....inches	$\frac{13}{32} \times \frac{5}{64}$	$\frac{19}{32} \times \frac{7}{64}$
Thin.....inches	$\frac{13}{32} \times \frac{3}{64}$	$\frac{19}{32} \times \frac{5}{64}$
Approx. Weight per Dozen:		
Thick.....pounds	$\frac{1}{2}$	$1\frac{3}{4}$
Thin.....pounds	$\frac{5}{16}$	$1\frac{1}{4}$

Nicholson X. F. Swiss Pattern Round Handle Needle Files



Crossing is furnished instead of oval in 5½ and 6¼-inch lengths.
 Length.....in. 4 5½ 6¼
 Cuts 0, 2, 4, and 6, Each Shape or Assorted.....per dozen \$6.10 7.80 8.50

Nicholson XF Swiss Pattern File Sets

Knurled Round Handle Needle Files

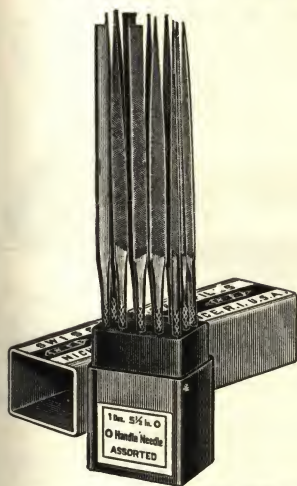
Used principally by jewelers, die makers, watchmakers and fine toolmakers.

Made in 12 shapes: round, half round, flat, oval, knife, square, three square, equaling, barrette, joint, two round edges, slitting and marking. In the 5½ and 6¼-inch lengths crossing shape is furnished instead of oval.

Made in cuts Nos. 0, 2, 4 and 6.

Furnished 1 dozen of assorted shapes in boxes:

Length.....in. 4 5½ 6¼
 12 Asst'd Shapes
 ...per set \$6.10 7.80 8.50



Die Sinkers' Files

For die sinkers, dressing and finishing dies of all kinds.

Made in 12 shapes: flat, auriform, oval 1 sharp edge, oval, half round, round, knife, flat 2 round edges (crochet), flat 1 safe edge, lozenge, square and three square.

Made in cuts Nos. 0, 1 and 2, in 3½-inch lengths.
 12 Assorted Shapes in Boxes.....per set \$10.30

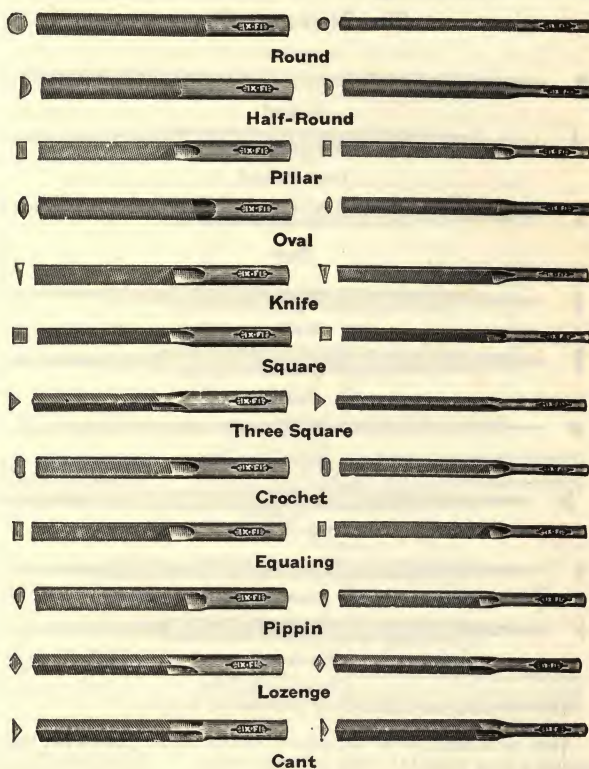
Bench Filing Machine Files

Designed to cut on downward stroke and are for use in machines for filing dies and patterns.

Made in 12 shapes: round, half round, pillar, oval, knife, square, three square, crochet, equaling, pippin, lozenge and cant. Made in cuts Nos. 00, 0 and 2, in 3¼-inch lengths.

Size Shank.....inches 1/8 1/4
 12 Assorted Shapes in Boxes.....per set \$9.50 10.60

Nicholson X.F. Bench Filing Machine Files



Size.....inches 3¼x1/8 3¼x1/4
 Cuts 00, 0 and 2, Each Shape or Assorted
per doz. \$9.50 10.60

Nicholson Parallel Machine Files

X F Swiss Pattern

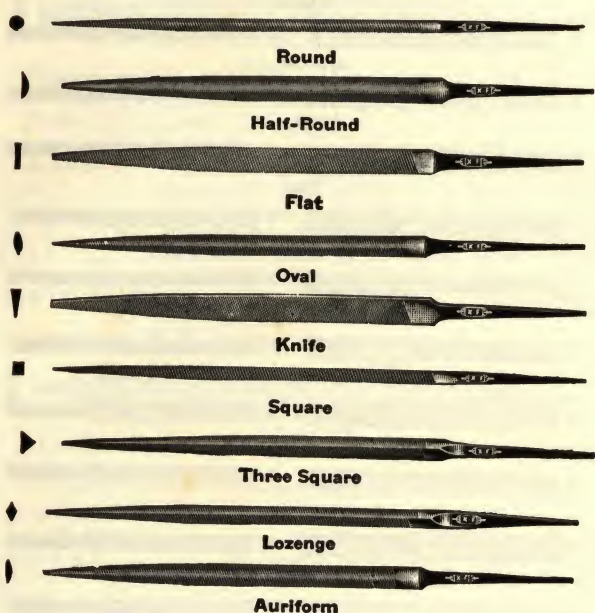


For use with the Oliver, Harvey, Butterfly, Cochrane-Bly type filing machines. Cut Nos. 00, 0 and 2, designed to file on the downward stroke. Length overall, 8 inches. Supplied in assortments or in any quantity of any shape and size.

Round.....in.	1/8	3/16	1/4	5/16	3/8	1/2	5/8
Half Round.....in.	3/16x3/32	1/4x1/8	3/8x3/16	1/2x1/4	5/8x3/16	3/4x3/8	7/8x1/2
Pillar(1 Safe Edge)in.	3/16x3/32	1/4x1/8	3/8x3/16	1/2x1/4	5/8x3/16	3/4x3/8	7/8x1/2
Oval.....in.	11/32x1/8	15/32x1/8	19/32x1/8	23/32x1/8	27/32x1/8	31/32x1/8	35/32x1/8
Knife.....in.	11/32x1/8	15/32x1/8	19/32x1/8	23/32x1/8	27/32x1/8	31/32x1/8	35/32x1/8
Square.....in.	3/16	1/4	3/8	1/2	5/8	3/4	7/8
Crochet.....in.	3/16x3/32	1/4x1/8	3/8x3/16	1/2x1/4	5/8x3/16	3/4x3/8	7/8x1/2
Equaling (or Warding).....in.	3/16x3/32	1/4x1/8	3/8x3/16	1/2x1/4	5/8x3/16	3/4x3/8	7/8x1/2
Three Square.....in.	3/16	1/4	3/8	1/2	5/8	3/4	7/8

Pippin, 19/64x3/32 inches; Lozenge, 11/32x7/32 inches; Cant, 11/32x5/8 inches.

Nicholson X. F. Swiss Pattern Die Sinkers' Files



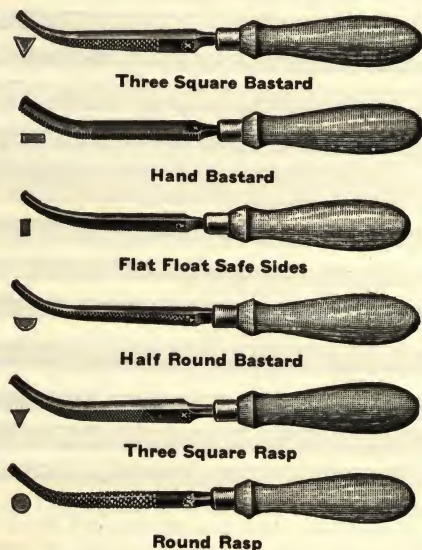
For dressing and finishing dies of all kinds.

Also available oval with one sharp edge, flat with two round edges and flat with one safe edge.

Packed 12 in a box.

Length.....inches $3\frac{1}{2}$
Cuts 0, 1 and 2, Each Shape or Assorted...per dozen \$10.30

Nicholson Bent Riffilers



Used principally by wood carvers, metal and stone workers for shaping and finishing in and about the many irregular places of pattern work.

Furnished in sets of 6 assorted and made in the following shapes: three square bastard, hand bastard, flat float safe sides, half round bastard, three square rasp and round rasp.

Length, handled, $7\frac{3}{4}$ inches overall.

Weight, 3 ounces per set of 6.

Packed 6 in a box.

Handled, Assorted Shapes.....per set of 6 \$3.50

Judd File Handles



No.	1	2	3	4	5	6
Per Gross.....	\$3.50	4.00	4.50	4.80	5.30	5.60
Diam.....in.	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{3}{8}$	$1\frac{1}{2}$
Length.....in.	$3\frac{3}{4}$	$4\frac{1}{4}$	$4\frac{3}{4}$	$4\frac{3}{4}$	$4\frac{3}{4}$	$5\frac{3}{4}$
No. in Box.....	72	72	72	36	36	36

Lutz File Handles



No.	1	2	3	4	5
Per Dozen.....	4	$4\frac{1}{2}$	$4\frac{7}{8}$	$5\frac{1}{2}$	6
Diameter.....in.	1	$1\frac{1}{8}$	$1\frac{3}{8}$	$1\frac{7}{8}$	$1\frac{9}{16}$
For Files.....in.	3 to 6	6 to 8	8 to 12	12 to 16	16 to 20

Skroo-Zon File Handles



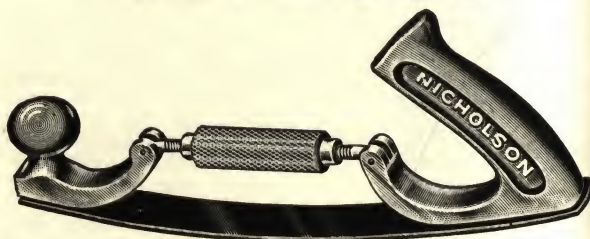
This is for use on files and all tools with a taper tang. Screws handle tightly on file, cutting its own thread. Made in eight sizes, each to be used on a certain file.

Made of moisture absorbing hardwood, shaped to fit the hand. Tang is held firmly in the hollow bore of the handle and never engages the wood, which, being relieved of all strain, cannot split.

Packed 12 in a box.

No.	1	2	3	4	5	6	7	8
Per Doz.....	\$2.20	2.20	2.50	2.50	3.00	3.00	3.60	3.60
For Files....in.	Spec.Sm.	4	5	6	8	10	12	14

No. 25 Nicholson Superior File Holders For Curved Tooth Flexible Files



Used with any make 12 or 14 inch flexible curved tooth files.

Lightweight, aluminum construction. Streamlined grip. Improved turnbuckle for ease of flexing for concave or convex surfaces. Has spring steel plate.

No. 25.....per dozen \$37.40

No. 10 Colton's File Cleaners



Cleans all types of files. Steel back, frame and face. Tempered steel wire bristles. Furnished with soft steel tapered pick to remove any substance from file which does not quickly yield to bristles. Packed 1 dozen per box.

No. 10, Ship. Wt., 3 Lb. per Dozen.....per dozen \$12.00

File Brushes



Overall length, 10 inches. Packed 6 in a box.

Per Dozen..... \$9.50

Nicholson High Speed Steel Rotary FilesGround-from-Solid Burs
Standard Shanks $\frac{1}{4}$ Inch in Diameter**Definition of Terms**

Ground from Solid. Teeth are ground after the blank has been hardened. Burs can be reground many times at fraction of its original cost.

Head or Cut Section. That portion of the bur on which the teeth are placed.

Shank. The handle of the bur.

Style. This refers to shape of head or cut section.

Cut. Refers to coarseness and character of teeth.

Coarse Cut. Approximately 12 teeth per inch.

Medium Cut. Approximately 18 teeth per inch.

Fine Cut. Approximately 30 teeth per inch.

Diameter. The diameter of the head or cut section.

Length. The length of the head or cut section.

How to Order by Symbols

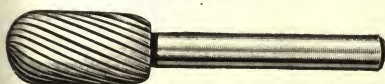
The first symbol is a letter and identifies the style.

The second symbol is a number and identifies diameter.

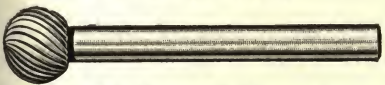
**Style N Cylindrical Shape
Flat End**

Symbols	Coarse or Medium Each	Fine Each	Diam. x Length Inches
N1G	\$1.65	\$2.00	$\frac{1}{8} \times \frac{1}{2}$
N3P	2.00	2.25	$\frac{1}{4} \times 1$
N3U	2.50	2.90	$\frac{1}{4} \times 1\frac{1}{2}$
N5P	2.50	2.90	$\frac{3}{8} \times 1$
N5U	3.30	3.80	$\frac{3}{8} \times 1\frac{1}{2}$
N7P	3.05	3.60	$\frac{1}{2} \times 1$
N9P	3.90	4.50	$\frac{5}{8} \times 1$
N10G	3.65	4.35	$\frac{3}{4} \times \frac{1}{2}$
N10K	4.20	5.00	$\frac{3}{4} \times \frac{3}{4}$
N14P	5.85	6.70	1 x 1

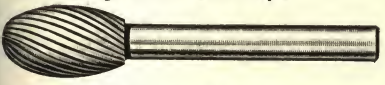
Furnished with uncut ends; add 25 cents to prices for cut ends.

**Style P Cylindrical Shape
Radius End**

Symbols	Coarse or Medium Each	Fine Each	Diam. x Length Inches
P1G	\$1.70	\$2.05	$\frac{1}{8} \times \frac{1}{2}$
P3P	2.20	2.65	$\frac{1}{4} \times 1$
P3U	2.60	3.10	$\frac{1}{4} \times 1\frac{1}{2}$
P5P	2.85	3.40	$\frac{3}{8} \times 1$
P5U	3.40	4.00	$\frac{3}{8} \times 1\frac{1}{2}$
P7P	3.45	4.10	$\frac{1}{2} \times 1$
P9P	3.90	4.65	$\frac{5}{8} \times 1$
P10R	5.35	6.35	$\frac{3}{4} \times 1\frac{1}{4}$

Style Q Ball Shape

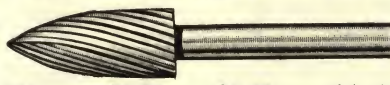
Symbols	Coarse or Medium Each	Fine Each	Diam. x Length Inches
Q1	\$1.55	\$1.75	$\frac{1}{8}$
Q2	1.60	1.85	$\frac{3}{16}$
Q3	1.60	1.85	$\frac{1}{4}$
Q4	1.90	2.25	$\frac{5}{16}$
Q5	2.15	2.55	$\frac{3}{8}$
Q7	2.75	3.25	$\frac{1}{2}$
Q9	3.30	4.00	$\frac{5}{8}$
Q10	4.20	4.95	$\frac{3}{4}$
Q14	5.65	6.75	1

Style R Oval Shape

Symbols	Coarse or Medium Each	Fine Each	Diam. x Length Inches
R3G	\$1.75	\$2.20	$\frac{1}{4} \times \frac{1}{2}$
R5K	2.40	2.95	$\frac{3}{8} \times \frac{3}{4}$
R6L	2.60	3.20	$\frac{1}{2} \times \frac{13}{16}$
R7M	3.00	3.60	$\frac{1}{2} \times \frac{7}{8}$
R9N	3.15	3.85	$\frac{5}{8} \times \frac{15}{16}$
R10P	4.60	5.50	$\frac{3}{4} \times 1$
R14S	7.10	8.45	1 x $1\frac{3}{8}$

Style S Tree Shape Radius End

Symbols	Coarse or Medium Each	Fine Each	Diam. x Length Inches
S3K	\$1.95	\$2.25	$\frac{1}{4} \times \frac{3}{4}$
S5K	2.65	3.15	$\frac{3}{8} \times \frac{3}{4}$
S7Q	3.60	4.25	$\frac{1}{2} \times 1\frac{1}{8}$
S10P	4.75	5.75	$\frac{3}{4} \times 1$
S15Y	10.60	12.70	$1\frac{1}{8} \times 2$

Style T Tree Shape Pointed End

Symbols	Coarse or Medium Each	Fine Each	Diam. x Length Inches
T3G	\$1.90	\$2.25	$\frac{1}{4} \times \frac{1}{2}$
T5K	2.60	3.10	$\frac{3}{8} \times \frac{3}{4}$
T7K	3.20	3.85	$\frac{1}{2} \times \frac{3}{4}$
T7Q	3.70	4.35	$\frac{1}{2} \times 1\frac{1}{8}$
T9P	4.15	4.90	$\frac{5}{8} \times 1$
T15Y	11.10	13.15	$1\frac{1}{8} \times 2$

Style U Cone Shape

Symbols	Coarse or Medium Each	Fine Each	Included Angle	Diam. x Length Inches
U3G	\$1.80	\$2.10	20°	$\frac{1}{4} \times \frac{1}{2}$
U3K	1.95	2.50	16°	$\frac{1}{4} \times \frac{3}{4}$
U3P	2.10	2.55	12°	$\frac{1}{4} \times 1$
U3R	2.35	2.80	10°	$\frac{1}{4} \times 1\frac{1}{4}$
U4K	2.25	2.65	20°	$\frac{5}{16} \times \frac{3}{4}$
U4P	2.45	2.90	16°	$\frac{5}{16} \times 1$
U5J	2.40	2.80	28°	$\frac{3}{8} \times \frac{5}{8}$
U7M	3.15	3.75	30°	$\frac{1}{2} \times \frac{7}{8}$
U9P	3.80	4.45	32°	$\frac{5}{8} \times 1$

Style V Cone Shape

Symbols	Coarse or Medium Each	Fine Each	Included Angle	Diam. x Length Inches
V5	\$2.20	\$2.70	60°	$\frac{3}{8}$
V7	2.85	3.40	60°	$\frac{1}{2}$
V9	3.30	4.00	60°	$\frac{5}{8}$
V10	4.15	4.90	60°	$\frac{3}{4}$
V14	6.00	6.90	60°	1

Style W Cone Shape

Symbols	Coarse or Medium Each	Fine Each	Included Angle	Diam. x Length Inches
W5	\$2.10	\$2.25	90°	$\frac{3}{8}$
W7	2.75	3.25	90°	$\frac{1}{2}$
W9	3.35	4.00	90°	$\frac{5}{8}$
W10	3.95	4.70	90°	$\frac{3}{4}$
W14	5.60	6.45	90°	1

Medium Cut Will Always Be Furnished Unless Otherwise Specified

The third symbol is a letter and identifies the length of head or cut section.

Fourth symbol, a letter, identifies coarseness of cut.

Order files by symbols. EXAMPLE: pick and list the corresponding symbols. Add the letter C, M or F to indicate the coarseness of cut, such as P7P-M.

Table Identifies Diameter of File and Length of Cut

Size In.	Diam.	Lgth.	Size In.	Diam.	Lgth.	Size In.	Diam.	Lgth.
$\frac{1}{8}$	1	A	$\frac{5}{8}$	9	J	$\frac{13}{8}$	17	S
$\frac{3}{16}$	2	B	$\frac{3}{4}$	10	K	$\frac{17}{16}$	18	T
$\frac{1}{4}$	3	C	$\frac{13}{16}$	11	L	$\frac{19}{16}$	19	U
$\frac{5}{16}$	4	D	$\frac{7}{8}$	12	M	$\frac{15}{8}$	20	V
$\frac{3}{8}$	5	E	$\frac{15}{16}$	13	N	$\frac{13}{4}$	21	W
$\frac{7}{16}$	6	F	1	14	P	$\frac{17}{8}$	22	X
$\frac{1}{2}$	7	G	$\frac{11}{8}$	15	Q	2	23	Y
$\frac{9}{16}$	8	H	$\frac{13}{4}$	16	R	...	...	...

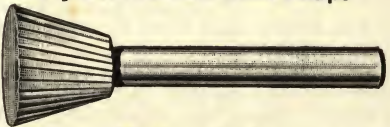
Style X Flame Shape

Symbols	Coarse or Medium Each	Fine Each	Diam. x Length Inches
X9M	\$3.95	\$4.50	$\frac{5}{8} \times \frac{7}{8}$
X9T	5.25	5.90	$\frac{5}{8} \times 1\frac{1}{16}$
X10W	7.10	8.10	$\frac{3}{4} \times 1\frac{3}{4}$

Style Y Bi-Shape

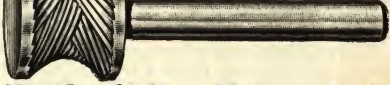
Symbols	Coarse or Medium Each	Fine Each	Diam. x Length Inches
Y3P	\$2.35	\$2.55	$\frac{1}{4} \times 1$
Y4Q	2.50	2.90	$\frac{3}{16} \times 1\frac{1}{8}$
†Y5Q	3.05	3.50	$\frac{3}{8} \times 1\frac{1}{8}$

†Ball nose.

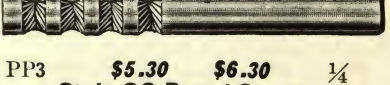
Style Z Inverted Cone Shape

Symbols	Coarse or Medium Each	Fine Each	Diam. x Length Inches
Z10J	\$3.40	\$4.20	$\frac{3}{4} \times \frac{5}{8}$

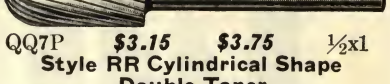
Furnished with uncut ends; add 25 cents to prices for cut ends.

Style NN Concave Shape Type I

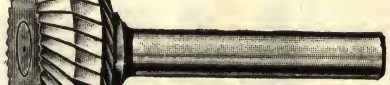
Symbols	Coarse or Medium Each	Fine Each	Diam. x Length Inches
NN10J	\$5.60	\$6.45	$\frac{3}{4} \times \frac{5}{8}$

Style PP Concave Shape Type II

Symbols	Coarse or Medium Each	Fine Each	Diam. x Length Inches
PP3	\$5.30	\$6.30	$\frac{1}{4}$

Style QQ Barrel Shape

Symbols	Coarse or Medium Each	Fine Each	Diam. x Length Inches
QQ7P	\$3.15	\$3.75	$\frac{1}{2} \times 1$

Style RR Cylindrical Shape Double Taper

Symbols	Coarse or Medium Each	Fine Each	Diam. x Length Inches
RR15E	\$6.40	\$7.60	$1\frac{1}{8} \times \frac{3}{8}$

Grinding Wheels

Manufacturing Processes



Regular

Grinding wheels are manufactured by processes known as vitrified, silicate, shellac (or elastic), resinoid and rubber. These processes differ essentially in the bonds used to unite the abrasive grains into hard wheel masses.

Most grinding can be done best with vitrified wheels although there are special cases where other types are preferable. Probably 80 per cent of the grinding wheels used are made by the vitrified process.

Bonds

Vitrified Bonded Wheels

The vitrified bonded wheels are standard for most grinding operations, the other types being used only when special conditions are involved.

Silicate Bonded Wheels

Silicate wheels have a milder or less harsh grinding action and are especially adapted to that class of work requiring a delicate edge, such as edged tools and cutlery.

Shellac Bonded Wheels

Shellac bonded wheels are capable of producing a high degree of finish, and very thin wheels can be made by this process. The elasticity or non-rigidity of the bond is an especially desirable quality in some classes of work, notably in saw sharpening and in the grinding of granite and marble.

Resinoid Bonded Wheels

Resinoid snagging wheels operating at 9000 surface feet per minute are being employed very successfully for high speed snagging of steel and malleable castings and for billet and ingot grinding. Resinoid cutting-off wheels have now become a very important factor in cutting-off all kinds of materials.

Rubber Bonded Wheels

This type is used when the nature of the work requires a thin wheel of great strength, as in the grinding of grooves. Thick rubber wheels are also used for grinding of malleable iron and steel castings. They are operated at a speed considerably higher than that employed for vitrified wheels.

Different Types of Abrasives

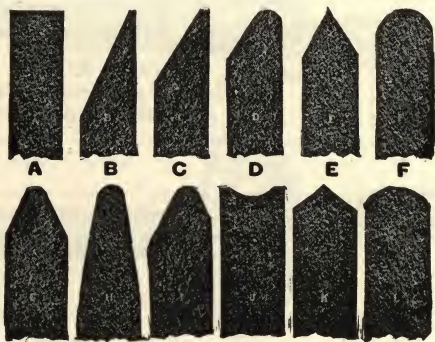
There are two distinct types of abrasives used, varying widely in physical formation and characteristics. One type is most efficient for grinding steel and materials of high tensile strength while the other type is adapted for cast iron, brass, bronze, granite, marble and other materials of low tensile strength.

Directions for Ordering

Give diameter and size of shaft. Give shape of face. If no shape is specified, Face A will be furnished. Specify the kind of cutting to be done, whether cast iron, malleable, hard or soft steel, brass or other work. Give speed of spindle, and state whether for wet or dry grinding.

If a wheel giving satisfactory service has been used, attach the tag showing grain and grade to order, and it will then be possible to duplicate it.

Wheels with any of the standard shapes of wheel edges, except A, are subject to an extra price.



Shapes of Faces for Straight Side Wheels

Sterling Grinding Wheels

Revolutions per Minute for Various Diameters of Grinding Wheels to Give Peripheral Speed in Feet per Minute as Indicated

Wheel Diam., In.	PERIPHERAL SPEED, FEET PER MINUTE					
	4000	4500	5000	5500	6000	6500
1	15279	17189	19098	21008	22918	24828
2	7639	8594	9549	10504	11459	12414
3	5093	5729	6366	7003	7639	8276
4	3820	4297	4775	5252	5729	6207
5	3056	3438	3820	4202	4584	4966
6	2546	2865	3183	3501	3820	4138
7	2183	2455	2728	3001	3274	3547
8	1910	2148	2387	2626	2865	3103
10	1528	1719	1910	2101	2292	2483
12	1273	1432	1591	1751	1910	2069
14	1091	1228	1364	1500	1637	1773
16	955	1074	1194	1313	1432	1552
18	849	955	1061	1167	1273	1379
20	764	859	955	1050	1146	1241
22	694	781	868	955	1042	1128
24	637	716	796	875	955	1034
26	588	661	734	808	881	955
28	546	614	682	750	818	887
30	509	573	637	700	764	828
32	477	537	597	656	716	776
34	449	505	562	618	674	730
36	424	477	530	583	637	690

Wheel Diam., In.	PERIPHERAL SPEED, FEET PER MINUTE					
	7000	7500	8000	8500	9000	9500
1	26737	28647	30558	32467	34377	36287
2	13368	14328	15278	16238	17188	18143
3	8913	9549	10186	10822	11459	12115
4	6685	7162	7640	8116	8595	9072
5	5348	5730	6112	6494	6876	7258
6	4456	4775	5092	5411	5729	6048
7	3820	4092	4366	4638	4911	5183
8	3342	3580	3820	4058	4297	4535
10	2674	2865	3056	3247	3438	3629
12	2228	2386	2546	2705	2864	3023
14	1910	2046	2182	2319	2455	2592
16	1672	1791	1910	2029	2149	2268
18	1485	1591	1698	1803	1910	2016
20	1337	1432	1528	1623	1719	1814
22	1215	1302	1388	1476	1562	1649
24	1115	1194	1274	1353	1433	1512
26	1028	1101	1176	1248	1322	1395
28	955	1023	1092	1159	1228	1296
30	891	955	1018	1082	1146	1210
32	836	895	954	1014	1074	1134
34	786	843	898	955	1011	1067
36	742	795	848	902	954	1007

NOTE.—Centrifugal force, which is the force that tends to rupture a given wheel when overspreading, increases as the square of the velocity of that wheel. For example the centrifugal force in a wheel running at 5500 surface feet per minute is 49 per cent greater than in the same wheel running at 4500 surface feet per minute, although the speed is actually only 22 per cent greater.

Rules for Obtaining Surface Speeds

To find the surface speed in feet per minute of a wheel, multiply the circumference in feet by the number of revolutions it makes per minute.

The rule for finding the number of revolutions of the wheel spindle, being given the surface speed and diameter of the wheel—divide the surface speed in feet per minute by the circumference in feet.

Sterling Grade List

The degree of hardness of the wheels is termed the grade. The various grades are produced by changing the proportion and kind of bonding materials that hold the grains together.

Wheels are graded by use of letters A to Z. A is softest wheel made and Z hardest. The following scale will give an idea of the various degrees of hardness produced.

Soft									
A	B	C	D	E	F	G	H	I	
Medium									
J	K	L	M	N	O	P	Q	R	
Hard									
S	T	U	V	W	X	Y	Z		

Standard Straight Grinding Wheels Vitrified and Silicate Bonds—Each

Diam. In.	THICKNESS OF WHEELS, INCHES							
	1/4	1/4	3/8	1/2	5/8	3/4	7/8	1
1	\$.45	\$.45	\$.50	\$.50	\$.55	\$.55	\$.60	\$.60
1 1/2	.50	.50	.55	.55	.60	.60	.65	.70
2	.60	.60	.65	.70	.75	.75	.80	.85
2 1/2	.75	.75	.80	.85	.90	.95	1.00	1.05
3	.90	.90	.95	1.05	1.10	1.20	1.25	1.30
3 1/2	1.70	1.40	1.50	1.60	1.70	1.80	1.90	2.00
4	1.85	1.55	1.65	1.75	1.90	2.05	2.20	2.35
4 1/2	2.15	1.75	1.90	2.05	2.20	2.40	2.60	2.80
5	2.40	2.10	2.30	2.50	2.70	2.90	3.10	3.30
6	2.85	2.50	2.75	3.00	3.25	3.50	3.75	4.00
7	3.60	2.90	3.25	3.60	3.95	4.30	4.60	4.90
8	4.40	3.45	3.90	4.30	4.70	5.15	5.55	6.00
9	....	4.05	4.60	5.15	5.65	6.15	6.65	7.15
10	....	4.75	5.40	6.05	6.65	7.25	7.85	8.45
12	....	6.30	7.20	8.10	8.95	9.80	10.65	11.50
14	....	....	....	10.20	11.50	12.80	14.10	15.40
16	....	....	....	....	....	16.60	18.30	20.00
18	....	....	....	....	....	....	....	25.20
20	....	....	....	....	....	....	....	30.95

Diam. In.	THICKNESS OF WHEELS, INCHES					
	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2
1	\$.75	\$.90	\$ 1.00	\$ 1.15	\$ 1.30	\$ 1.45
1 1/2	.85	1.05	1.20	1.35	1.50	1.70
2	1.05	1.25	1.45	1.65	1.85	2.05
2 1/2	1.30	1.55	1.80	2.05	2.25	2.50
3	1.60	1.90	2.20	2.50	2.80	3.10
3 1/2	2.30	2.65	2.95	3.25	3.55	3.90
4	2.70	3.10	3.45	3.80	4.15	4.55
4 1/2	3.20	3.65	4.05	4.45	4.90	5.30
5	3.80	4.25	4.75	5.20	5.70	6.15
6	4.60	5.25	5.90	6.55	7.20	7.85
7	5.70	6.55	7.40	8.25	9.05	9.90
8	7.00	8.00	9.10	10.15	11.20	12.30
9	8.40	9.75	11.05	12.35	13.65	15.00
10	10.05	11.65	13.20	14.80	16.40	18.00
12	13.75	15.95	18.20	20.45	22.65	24.90
14	18.40	21.35	24.30	27.25	30.20	33.15
16	23.80	27.60	31.40	35.20	38.95	42.75
18	29.90	34.65	39.40	44.10	48.85	53.55
20	36.75	42.55	48.35	54.15	59.90	65.70
22	44.25	51.35	58.45	65.55	72.65	79.75
24	52.55	61.00	69.55	78.10	86.60	95.15
26	64.30	72.25	82.35	92.45	102.55	112.65
28	77.00	84.40	96.15	107.95	119.70	131.50
30	90.65	97.45	111.05	124.60	138.20	151.75
32	106.50	111.40	126.90	142.40	157.90	173.40
34	122.45	126.25	143.80	161.35	178.90	196.50
36	139.85	145.00	164.60	184.25	203.85	223.50

Diam. In.	THICKNESS OF WHEELS, INCHES					
	2 3/4	3	3 1/4	3 1/2	3 3/4	4
1	\$ 1.55	\$ 1.70	\$ 2.00	\$ 2.30	\$ 2.60	\$ 2.90
1 1/2	1.85	2.00	2.30	2.60	2.90	3.20
2	2.25	2.45	2.75	3.05	3.35	3.65
2 1/2	2.75	3.00	3.30	3.60	3.90	4.20
3	3.40	3.70	4.00	4.30	4.60	4.90
3 1/2	4.20	4.50	4.80	5.15	5.45	5.75
4	4.90	5.25	5.60	6.00	6.35	6.70
4 1/2	5.70	6.15	6.55	6.95	7.40	7.80
5	6.65	7.10	7.60	8.05	8.55	9.00
6	8.50	9.20	9.85	10.50	11.15	11.80
7	10.75	11.60	12.45	13.30	14.15	15.00
8	13.35	14.40	15.50	16.65	17.60	18.65
9	16.30	17.60	18.90	20.25	21.55	22.85
10	19.60	21.15	22.75	24.35	25.95	27.50
12	27.15	29.35	31.60	33.80	36.05	38.30
14	36.10	39.05	42.05	45.00	47.95	50.90
16	46.55	50.30	54.10	57.90	61.70	65.45
18	58.30	63.05	67.75	72.50	77.25	81.95
20	71.50	77.25	83.05	88.85	94.65	100.40
22	86.85	93.95	101.05	108.15	115.25	122.35
24	103.70	112.25	120.75	129.30	137.85	146.40
26	122.70	132.80	142.90	153.00	163.10	173.20
28	143.25	155.05	166.80	178.60	190.35	202.15
30	165.35	178.90	192.50	206.05	219.65	233.20
32	188.95	204.45	219.95	235.45	250.95	266.45
34	214.05	231.60	249.15	266.70	284.25	301.85
36	243.10	262.70	282.35	301.95	321.55	341.20

Diameters and thicknesses intermediate to those shown above take price of next greater diameter or thickness.

Diameters or thicknesses less than those shown above take price of smallest diameter or thickness listed.

Standard Straight Grinding Wheels

Resinoid Bonded

Diameter Inches	THICKNESS OF WHEEL, INCHES					
	3/32	1/4	3/8	1/2	5/8	3/4
1	\$.55	\$.60	\$.65	\$.70	\$.75	\$.80
1 1/2	.60	.65	.70	.80	.85	.90
2	.65	.70	.75	.90	.95	1.00
2 1/2	.70	.80	.85	1.00	1.05	1.10
3	.80	.90	1.00	1.15	1.20	1.25
3 1/2	.90	1.00	1.15	1.30	1.40	1.50
4	1.00	1.10	1.30	1.45	1.60	1.75
4 1/2	1.10	1.20	1.45	1.70	1.85	2.05
5	1.20	1.30	1.60	1.95	2.15	2.35
6	1.30	1.45	1.80	2.30	2.55	2.80
7	1.50	1.65	2.10	2.70	3.00	3.30
8	1.70	1.90	2.45	3.15	3.60	4.05
9	2.00	2.25	2.85	3.65	4.25	4.80
10	2.45	2.70	3.45	4.45	5.20	5.95
12	3.35	3.70	4.90	5.90	6.90	7.90
14	4.45	4.95	6.45	7.55	8.70	9.90
16	....	6.25	8.00	9.60	11.15	13.65
18	....	8.00	9.50	12.00	14.50	18.00
20	....	10.50	12.50	15.50	19.00	23.00
22	....	....	15.50	19.00	23.50	28.00
24	....	....	18.50	23.00	28.00	33.50
26	....	....	....	....	33.00	39.00
28	....	....	....	....	38.00	45.00
30	....	....	....	....	44.00	60.00

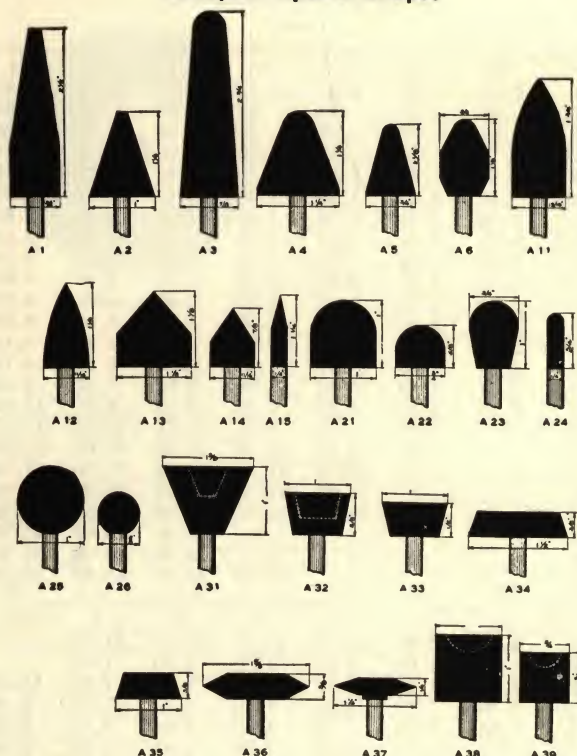
Diameter Inches	THICKNESS OF WHEEL, INCHES					
	1/8	1	1 1/4	1 1/2	1 3/4	2
1	\$.90	\$.95	\$ 1.00	\$ 1.10	\$ 1.20	\$ 1.30
1 1/2	1.00	1.05	1.10	1.20	1.30	1.40
2	1.10	1.15	1.25	1.35	1.45	1.55
2 1/2	1.20	1.25	1.40	1.50	1.70	1.85
3	1.45	1.55	1.70	1.80	2.00	2.15
3 1/2	1.75	1.85	2.05	2.25	2.45	2.65
4	2.10	2.25	2.50	2.75	3.00	3.25
4 1/2	2.50	2.75	3.05	3.35	3.65	3.95
5	2.95	3.35	3.70	4.05	4.40	4.75
6	3.55	4.05	4.50	5.15	5.70	6.25
7	4.25	4.90	5.60	6.50	7.30	8.10
8	5.25	6.00	6.90	8.00	9.00	10.00
9	6.45	7.40	8.55	9.90	11.15	12.40
10	7.90	9.10	10.50	12.10	13.60	15.10
12	10.20	11.80	13.80	16.00	18.10	20.20
14	13.60	15.75	18.60	21.65	24.60	27.00
16	19.10	22.00	25.00	28.00	31.00	34.00
18	25.00	28.50	32.00	35.50	39.50	44.00
20	31.00	35.00	39.00	43.50	49.00	54.50
22	37.00	42.00	47.00	52.00	59.00	66.00
24	44.00	49.00	56.00	63.00	70.00	78.00
26	52.00	58.00	67.00	75.00	83.00	93.00
28	60.00	67.00	77.00	86.00	97.00	108.00
30	68.00	76.00	88.00	100.00	111.00	122.00
32	....	88.00	103.00	116.00	131.00	144.00
34	....	101.00	118.00	134.00	151.00	167.00
36	....	114.00	133.00	152.00	171.00	190.00

Diameter, Inches	THICKNESS OF WHEEL, INCHES					
	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4
2	\$ 1.75	\$ 1.85	\$ 1.95	....	....	....
2 1/2	2.15	2.30	2.45	....	....	....
3	2.55	2.75	2.95	\$ 3.15	\$ 3.35	\$ 3.55
3 1/2	3.15	3.40	3.65	3.90	4.15	4.40
4	3.85	4.15	4.45	4.75	5.05	5.35
4 1/2	4.65	5.00	5.35	5.70	6.05	6.40
5	5.55	5.95	6.35	6.75	7.15	7.55
6	7.35	7.90	8.65	9.25	9.85	10.45
7	9.50	10.20	11.10	11.85	12.65	13.45
8	12.00	13.00	14.00	15.00	16.00	17.00
9	14.90	16.15	17.40	18.65	19.90	21.15
10	18.30	19.90	21.50	23.10	24.70	26.30
12	24.80	27.10	29.30	31.50	33.70	36.00
14	32.60	35.20	37.70	40.30	43.20	46.20
16	41.00	44.50	48.00	51.50	55.00	58.50
18	53.00	57.50	62.00	66.50	71.00	75.50
20	65.50	71.00	76.50	82.00	87.50	93.00
22	78.00	85.00	92.00	99.00	106.00	113.00
24	94.00	102.00	110.00	118.00	126.00	134.00
26	111.00	120.00	128.00	137.00	147.00	157.00
28	129.00	139.00	150.00	160.00	171.00	181.00
30	146.00	158.00	170.00	182.00	194.00	205.00
32	172.00	186.00	200.00	214.00	228.00	242.00
34	198.00	214.00	229.00	245.00	261.00	276.00
36	226.00	244.00	262.00	280.00	298.00	316.00

Diameters or thicknesses intermediate to those shown above take price of next greater diameter or thickness.

Diameters or thicknesses less than those shown above take price of smallest diameter or thickness listed.

Mounted Wheels and Mounted Points Group A—Special Shapes



Mounted wheels and mounted points are made in sizes and shapes to meet all demands of industrial grinding requiring this type of product.

For the usual job mounted products are vitrified bonded. The spindle on all mounted products is made of tempered stainless steel. The thread which is inserted is knurled and designed with a chisel point to insure permanent anchoring of the abrasive on the quill.

Shape No.	Vitrified Each	Resinoid Each	Diam. In.	Thick. In.	Shape No.	Vitrified Each	Resinoid Each	Diam. In.	Thick. In.
A 1	\$1.90	\$2.80	$\frac{3}{4}$	$2\frac{1}{2}$	A 23	\$.85	\$1.70	$\frac{3}{4}$	1
A 2	1.15	2.00	1	$1\frac{1}{4}$	A 24	.75	1.50	$1\frac{1}{4}$	$\frac{3}{4}$
A 3	2.05	3.00	$\frac{7}{8}$	$2\frac{3}{4}$	A 25	.90	1.75	1	1
A 4	1.30	2.15	$1\frac{1}{4}$	$1\frac{1}{4}$	A 26	.80	1.55	$\frac{5}{8}$	$\frac{5}{8}$
A 5	1.10	1.95	$\frac{3}{4}$	$1\frac{1}{8}$	A 31	1.10	2.00	$1\frac{3}{8}$	1
A 6	1.10	1.95	$\frac{3}{4}$	$1\frac{1}{8}$	A 32	.85	1.60	1	$\frac{5}{8}$
A 11	1.40	2.25	$1\frac{1}{16}$	$1\frac{3}{4}$	A 33	.80	1.50	1	$1\frac{1}{2}$
A 12	1.10	1.95	$1\frac{1}{16}$	$1\frac{1}{4}$	A 34	.95	1.65	$1\frac{1}{2}$	$\frac{3}{8}$
A 13	1.30	2.15	$1\frac{1}{8}$	$1\frac{1}{8}$	A 35	.80	1.40	1	$\frac{3}{8}$
A 14	.85	1.70	$1\frac{1}{16}$	$\frac{7}{8}$	A 36	1.10	1.85	$1\frac{5}{8}$	$\frac{3}{8}$
A 15	1.05	1.90	$\frac{1}{4}$	$1\frac{1}{16}$	A 37	.85	1.45	$1\frac{1}{4}$	$1\frac{1}{4}$
A 21	.90	1.75	1	1	*A 38	.75	1.50	1	1
A 22	.80	1.55	$\frac{3}{4}$	$\frac{5}{8}$	*A 39	.65	1.30	$\frac{3}{4}$	$\frac{3}{4}$

*A 38 and A 39 are priced as plain shapes.

Spindles for Group A Shapes

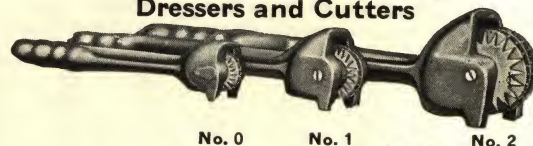
Diameter refers to diameter of spindle outside of abrasive. Length refers to length of spindle projection from base of abrasive plus or minus $\frac{1}{8}$ inch. Extra charge will be made for spindle dimensions other than those shown below:

Diameter Inches	Length Inches	Diameter Inches	Length Inches
* $\frac{1}{8}$	1, $1\frac{1}{2}$, $2\frac{1}{2}$	$\frac{1}{4}$	$1\frac{1}{2}$
* $\frac{3}{16}$	1, $1\frac{1}{2}$, $2\frac{1}{2}$	$\frac{1}{4}$	$1\frac{1}{2}$, $2\frac{1}{2}$
$1\frac{5}{64}$	$1\frac{1}{2}$	..	.....

*Only shapes A 15, A 24 and A 26 are available in diameters and lengths indicated.
†20 N.C. R.H. Thread.

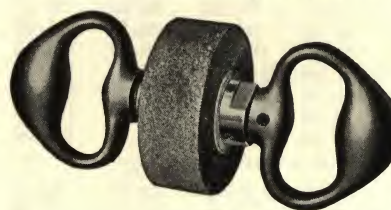
If spindle length not specified, $1\frac{1}{2}$ -inch length will be furnished. If spindle diameter is omitted, standard diameter will be furnished.

Desmond-Huntington Grinding Wheel Dressers and Cutters



- No. 0, This Dresser Should Not Be Used on Wheels over 10 In. in Diam. or 2-In. Face; Hooded. each \$1.20
Huntington Cutters, $1\frac{1}{4}$ -In. Diam. per doz. sets 1.75
Thin Gage Dresser Cutters, $1\frac{1}{4}$ In. per doz. sets 3.90
Paragon or Bushed Cutters, $1\frac{1}{4}$ In. per doz. sets 2.25
No. 1, For Wheels from 10 to 16 In. in Diam. or 3-In. Face; Hooded, Complete. each 2.10
Huntington Cutters, $1\frac{1}{2}$ -In. Diam. per doz. sets 3.15
No. 2, Used on Wheels over 16 In. in Diam. or 3-In. Face; Hooded, Complete. each 3.50
Huntington Cutters, $2\frac{3}{8}$ -In. Diam. per doz. sets 10.65
No. 21, Uses a Dbl. Set of No. 1 Cutters; for Med. Size Wheels of Wide Face; Hooded, Comp. each 2.50
Huntington Cutters (Double Set of No. 1 Cutters) per doz. sets 6.30
No. 22, Uses a Double Set of No. 2 Cutters; Hooded Complete. each 4.90
Huntington Cutters (Double Set of No. 2 Cutters) per doz. sets 21.30
No. 5H, Huntington Cutters, $1\frac{5}{8}$ -In. Diam., $\frac{3}{8}$ -In. Hole. per doz. sets 4.75
Special, Huntington Cutters, $1\frac{5}{8}$ -In. Diam. $\frac{1}{2}$ -In. Hole. per doz. sets 4.75
Stag tooth cutters can be furnished for Nos. 0, 1 and 2 at same prices as corresponding Huntington sizes.

Desmond Crackerjack Ball Bearing Grinding Wheel Dressers



Will true up a square edge or turn a bevel or V edge without breaking or chipping the wheel.

The action of this dresser is due to the cutting effect of one abrasive

wheel on another when their axes are at an angle of from 20 to 45 degrees. Held in the hands and does not require a tool rest for its use. Handles protect the knuckles and give a firm grip. Uses a full size 4-inch diameter abrasive wheel.

Complete. each \$6.75
Extra Abrasive Wheels, Special Grade. each 2.35

Desmond Diamo-Carbo Grinding Wheel Dressers



The dresser consists of a steel tube filled with an abrasive of such intense hardness that it will cut and dress any grinding wheel except the hard grade or the extremely coarse and large wheels used for grinding castings.

Abrasive wears away slowly.

Will shape grinding wheel edges.

No.	3	5
Each.	\$3.50	4.00
Diameter. inches	$\frac{5}{8}$	$\frac{5}{8}$
Length. inches	10	12

Also made in $\frac{1}{4}$ and $\frac{3}{8}$ -inch diameter.



Norton India Bench Stones

For use on lathe and planer tools and scraper blades. Also produce oilstoned finishes on wood working tools.

Fine No.	Med. No.	Coarse No.	Each	Size, Inches	Std. Pkg.	Wt. Lb.
FB14	MB14	CB14	\$1.00	4x1 x 1/4	6	1
FB24	MB24	CB24	1.30	4x1 x 1/2	6	1 1/2
FB124	MB124	.....	1.50	4x1 3/4 x 1/2	6	2 1/4
FB35	MB35	.....	2.50	5x2 x 5/8	6	4
FB26	MB26	.....	2.50	6x1 1/2 x 1/2	6	2 1/2
FB36	MB36	.....	2.70	6x2 x 5/8	6	4 3/4
FB6	MB6	CB6	3.00	6x2 x1	6	7 1/4
FB7	MB7	CB7	3.30	7x2 x1	6	8 1/2
FB48	MB48	.....	3.30	8x2 x 3/4	6	8
FB8	MB8	CB8	3.50	8x2 x1	6	10

Norton India Combination Stones



Coarse and fine grits vitrified into a single stone. Coarse side for dull tools; fine side for a finished edge.

Made from Norton Alundum abrasive (aluminum oxide).

No.	Each	Size Inches	Std. Pkg.	Wt. Lb.
IB64	\$3.20	4x1 Round	6	8
IB134	2.00	4x1 3/4 x 5/8	6	2 1/2
IB45	2.70	5x2 x 3/4	6	3 1/2
IB6	3.20	6x2 x1	6	7 1/4
IB7	3.50	7x2 x1	6	8 1/2
IB8	3.80	8x2 x1	6	10

Norton India Round Edge Slips



Produces oilstoned finishes on gouges, moulder knives, bead planers, and other tools and knives with curved edges.

Made from Norton Alundum abrasive (aluminum oxide).

Fine No.	Medium No.	Coarse No.	Each	Size Inches	Std. Pkg.	Wt. Lb.
FS14	MS14	CS14	\$1.20	4 x1 x 7/16 x 3/16	5	3/4
FS24	MS24	CS24	1.50	4 1/2 x 1 3/4 x 1/2 x 1/16	6	3/4
FS34	MS34	CS34	1.50	4 1/2 x 1 3/4 x 1/2 x 3/8	6	1 1/4
FS44	MS44	CS44	1.50	4 1/2 x 1 3/4 x 1/2 x 1/16	6	1 3/4
FS15	MS15	CS15	1.50	5 x1 x 5/16 x 3/32	6	1 1/2
FS54	MS54	CS54	2.00	4 1/2 x 2 1/8 x 5/8 x 1/16	6	2 1/4
FS66	MS66	.....	3.00	6 x 2 1/4 x 3/4 x 3/8	6	4

Norton India Carving Tool Slips



No. MS12 No. MS22 No. MS32 No. MS42

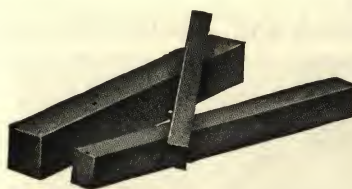
Special forms for producing an oilstoned finish on the various shaped knives and tools used by carvers of wood and ivory.

Dimensions, 2 1/4 x 7/8 x 3/16 inches.

Standard package, 6.

Weight, standard package, 3 ounces.

No.	MS12	MS22	MS32	MS42
Each	\$1.20	1.20	1.20	1.20



Norton India Square Files

For cleaning corners of dies where some stock is to be removed without scratching.

Fine No.	Medium No.	Coarse No.	Each	Size Inches	Std. Pkg.	Std. Pkg. Wt. Oz.
FF14	MF14	CF14	\$1.00	4x1/4	12	5
FF24	MF24	CF24	1.10	4x3/16	12	8
FF34	MF34	CF34	1.10	4x3/8	12	10 1/2
FF44	MF44	CF44	1.10	4x1/2	12	20
FF36	MF36	CF36	1.40	6x3/8	12	16
FF46	MF46	CF46	1.40	6x1/2	12	30
FF56	MF56	CF56	1.50	6x5/8	6	20
FF66	MF66	CF66	1.50	6x3/4	6	28
FF76	MF76	CF76	1.70	6x1	6	56

Norton India Triangular Files



For cleaning corners of dies where some stock is to be removed without scratching.

Fine No.	Medium No.	Coarse No.	Each	Size Inches	Std. Pkg.	Wt. Oz.
FF114	MF114	CF114	\$1.20	4x1/4	12	3
FF124	MF124	CF124	1.30	4x3/16	12	4
FF134	MF134	CF134	1.30	4x3/8	12	5
FF144	MF144	CF144	1.30	4x1/2	12	9
FF136	MF136	CF136	1.70	6x3/8	12	8
FF146	MF146	CF146	1.70	6x1/2	12	14
FF156	MF156	CF156	1.80	6x5/8	6	10
FF166	MF166	CF166	1.80	6x3/4	6	16
FF176	MF176	CF176	1.90	6x1	6	24

Norton India Round Files



Used for lapping round holes and for stoning dies and cleaning moulds.

Used also on many curved edges.

Fine No.	Medium No.	Coarse No.	Each	Size Inches	Std. Pkg.	Wt. Oz.
FF214	MF214	CF214	\$1.40	4x1/4	12	4
FF224	MF224	CF224	1.50	4x3/16	12	6
FF234	MF234	CF234	1.50	4x3/8	12	9
FF244	MF244	CF244	1.50	4x1/2	12	16
FF236	MF236	CF236	1.90	6x3/8	12	16
FF246	MF246	CF246	1.90	6x1/2	12	22
FF256	MF256	CF256	2.00	6x5/8	6	16
FF266	MF266	CF266	2.00	6x3/4	6	24
FF276	MF276	CF276	2.10	6x1	6	32

Norton India Half Round Files



For tools or dies having both straight and curved edges.

Fine No.	Medium No.	Coarse No.	Each	Size Inches	Std. Pkg.	Wt. Oz.
FF314	MF314	CF314	\$1.20	4x1/4	12	3
FF324	MF324	CF324	1.30	4x3/16	12	4
FF334	MF334	CF334	1.30	4x3/8	12	5
FF344	MF344	CF344	1.30	4x1/2	12	9

Norton India Taper Rounds and Triangles



For many different purposes in machine shops, tool and die works and wood-working plants.

Fine No.	Medium No.	Coarse No.	Each	Shape	Size Inches	Std. Pkg.	Wt. Oz.
FF644	MF644	CF644	\$1.80	Round	4x1/2 x 1/4	6	5
FF544	MF544	CF544	1.80	Triangle	4x1/2 x 1/4	6	3

Sharpening Stones by "CARBORUNDUM" Silicon Carbide



Designed particularly for carpenters and mechanics, for general purpose sharpening. May be used dry or with oil or water. Sufficiently porous to allow cutting quality to be tempered by filling with wax or petrolatum. Packed individually. Standard package, 6.

No.			Each	Length Inches	Width Inches	Thick- ness Inches	Wt., Lb. per Std. Pkg.
Fine	Medium	Coarse					
115	116	117	\$3.50	8	2	1	7½
118	119	...	3.30	8	2	¾	5½
121	122	123	3.00	6	2	1	5½
124	125	126	2.70	6	2	⅝	3½
130	131	...	2.50	6	1½	½	2¼
133	134	...	3.30	7	2	1	6½
136	137	...	2.50	5	2	⅝	3
142	143	144	1.50	4	1¾	½	1¾
145	146	147	1.00	4	1	¼	1

Sidewalk Grains by "CARBORUNDUM" Silicon Carbide and Aluminum Oxide



Provides simple, inexpensive method of making such concrete surfaces as slippery walks, building entrances, ramps, elevator entrances and concrete floors safe for foot traffic. Owing to extreme hardness and sharpness of this grain, a holding effect is produced on what would otherwise be a smooth, slippery surface. This holding effect makes treated surface non-slip and safe under foot.

Method of applying grain is simple. After first or foundation layer of concrete has been spread, a finish layer about one inch thick is laid. Composition recommended for this is one part cement to two parts clean sand (4 to 100 mesh). After striking off the grade, abrasive grains are sprinkled on surface and worked in with a wood float, care being taken not to work in grains too deeply. After allowing to set for about 15 minutes until water has disappeared surface is finished with steel trowel. Surface may be finished smoother than is usual practice for sidewalks, since hard and sharp Silicon Carbide grain will provide sufficient non-slip properties. For ordinary sidewalks or floors, most satisfactory results are obtained with 1/4 lb. of grain to square foot. Special sidewalk gradings on request.

Silicon Carbide grain is available in grains 12/30, packed for shipment in 300-lb. kegs, 100-lb. bags and 150, 100, 50 and 25-pound drums.

Aluminum Oxide is for use on heavily traveled areas; available in grains 8/12, 8/16 and 14/36; packed in 360-lb. kegs, 100-lb. bags; 100, 50 and 25-lb. drums.

Prices and Further Information upon Request

Pure Turkish Emery

Furnished in from No. 4 to No. 180 grain. Put up in 350-pound kegs, 1/2 kegs, 1/4 kegs, 1/8 kegs and 10-pound boxes. Smaller quantities in bulk.

Prices upon application.

American Emery

Furnished in the same grains, grades and sizes as the Turkish Emery.

Prices upon application.

Pumice Stone

Used by car and carriage painters for rubbing down varnish, shellac, etc.

Lump, About 250 Pounds in a Barrel. per pound. . . .
Powdered, About 250 Pounds in a barrel. per pound. . . .

Rotten Stone

Usually used after pumice stone; applied with linseed oil or rubbing oil and a cloth or rubbing felt.

Powdered, About 250 Pounds in a barrel. per pound. . . .

Polishing Supplies

Tripoli. per pound
Rouge. per pound
Crocus. per pound
Rosin, in Barrels per pound

Fluted Rubbing Bricks by "CARBORUNDUM" Silicon Carbide

For dressing all kinds of concrete work. Bricks fluted two sides to give shear cut. Stand. pkg., any quantity.



No.	Each	Size, In.	Per Doz.
284	\$6.50	8x3x3	63 3/4
285	3.30	8x2x2	28
286	2.55	6x2x2	20 1/2
287	2.00	4x2x2	13

No. HR250 Fluted Rubbing Bricks by "CARBORUNDUM"

With Handle



Designed to provide an economical and fast-cutting method of removing form and mould marks, for dressing all kinds of concrete work.

Sturdy wooden handle is cemented to the top surface to afford easy operation.

Size, 8x3 1/2 x 1 1/2 inches.

Packed in quantity desired. Weight per doz., 40 pounds.
No. HR250. each \$6.00

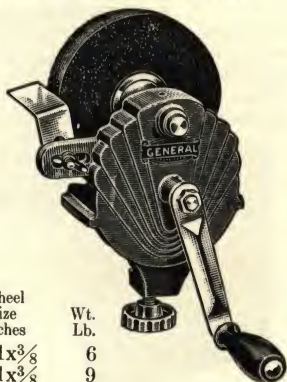
Series PDQ General Hand Tool Grinders

Extra long bearings. Machine cut helical steel gear and pinion. One piece, heavy grey iron gear case. High speed, gear ratio.

Unbreakable steel handle shaft. Adjustable tool rest.

Oversized wood handle grip. Finished in durable baked wrinkle enamel.

Individually packed.



No.	With Gen'l Purpose Wheels Each	With Vit- rified Wheels Each	Wheel Size Inches	Wt. Lb.
PDQ-5	\$4.50	\$5.25	5x1x3/8	6
PDQ-6	5.50	6.75	6x1x3/8	9
PDQ-7	6.50	7.75	7x1x3/8	10

3M Finishing Paper

3M Garnet Finishing Paper
Symbol 8/0 to 1/0—Grit No. 280 to 30

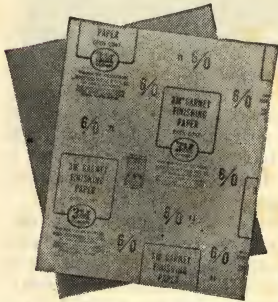
Production Finishing Paper
Symbol 9/0 to 1/0—Grit No. 320 to 30

Tri-M-ite Finishing Paper
Grit No. 400 to 120
In Sheets 9x11 Inches

Furnished in Open Coating on a lightweight flexible paper backing, A weight. The open coating prevents loading or filling. Extremely flexible sheets easily conform to curved surfaces such as moldings, grooves, flutes, etc.

3M Garnet and Production are used for final sanding of wood surfaces in preparation for the application of lacquer or other finishing materials. Production or Tri-M-ite for sand of sealers or undercoats.

Packed 10 sleeves per unit package.



Symbol and Grit Nos.	Per 100 Sheets	Per Unit Pkg.	Sheets per Sleeve
*7/0—240	\$9.30	1000	100
6/0—220	9.30	1000	100
5/0—180	9.30	1000	100
4/0—150	9.30	1000	100
3/0—120	9.30	1000	100
2/0—100	9.30	1000	100
1/0—80	10.40	500	50

*And finer—includes Nos. 10/0-400, 9/0-320, 8/0-280 and 7/0-240.

3M Flint Finishing Paper

Sleeves per unit package, 10; sheets per sleeve, 100.

Symbol.....	5/0	4/0	3/0	2/0
Per 100 Sheets.....	\$2.90	2.90	2.90	2.90

3M Cabinet Paper

3M Garnet Cabinet Paper
Symbol 4/0 to 2—Grit No. 150 to 36

3M Garnet Cabinet Paper, Open Coat
Symbol 4/0 to 2—Grit No. 150 to 36
Production Paper

Symbol 4/0 to 3½—Grit No. 150 to 20

Production Paper, Open Coat

Symbol 4/0 to 2—Grit No. 150 to 36

Tri-M-ite Paper, Open Coat, C Weight
Grit No. 220 to 100, also 280

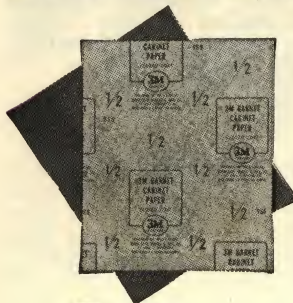
Tri-M-ite Paper, Open Coat, D Weight
Grit No. 240 to 150, also 100

Tri-M-ite Paper, Open Coat, E Weight
Grit No. 220 to 60
In Sheets 9x11 Inches

This paper is exceptionally tough and durable, yet possesses sufficient flexibility for hand sanding on flat or irregular surfaces. Generally used for surface conditioning before finishing.

3M Garnet and Production are recommended for sanding wood in the white. Tri-M-ite and Production are used for sanding bare metal, surfacers or undercoats on machine castings, etc.

Sleeves per unit package, 10; sheets per sleeve, 1/0 and coarser, 50; 2/0 and finer, 100.



Symbol No.	Grit No.	Per 100 Sheets
*2/0	100	\$9.30
1/0	80	10.40
1/2	60	12.00
1	50	13.70
1½	40	15.60
2	36	17.50
2½	30	19.30
3	24	21.30
3½	20	23.40

*Incl. Nos. 8/0-280, 7/0-240, 6/0-220, 5/0-180, 4/0-150, 3/0-120 and 2/0-100.

Wetordry Tri-M-ite Paper

In Sheets—9x11 Inches



A waterproof sandpaper which permits the sanding of painted, varnished, or enameled surfaces with water. Finish rivals that of pumice.

Recommended for production work where maximum speed is required, such as sanding surfaces, lacquers, etc., on automobile bodies, railroad passenger cars, etc.

The abrasive or cutting surface is waterproof and will not shed mineral under water. The paper back is waterproof and will not roll up under water.

The mineral used is a manufactured abrasive produced in an electric furnace, and it is the fastest cutting abrasive known for sanding any coated surface.

Best results are obtained when proper rubbing pads are used, such as the Wetordry Felt Pad.

Sheets per unit package, 500; sheets per sleeve, 50.

Grit No.	Per 100 Sheets	Grit No.	Per 100 Sheets	Grit No.	Per 100 Sheets
600-A	\$12.50	320-C	\$12.50	180-C	\$12.50
500-A	12.50	280-A	12.50	150-C	13.30
400-A	12.50	280-C	12.50	120-D	14.10
400-C	12.50	240-A	12.50	100-D	16.40
360-A	12.50	240-C	12.50	80-D	18.70
360-C	12.50	220-A	12.50	60-D	21.80
320-A	12.50	220-C	12.50	.....	.....

"A" weight has an especially light flexible backing designed for finishing on irregular surfaces. "C" weight of backing is standard, weight for ordinary usage on intermediate numbers. "D" weight is a heavier backing, most suitable for coarse cutting numbers.

Wetordry Garnet Paper

In Sheets 9x11 Inches

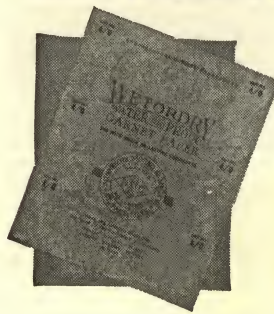
Made for wet sanding on rough stuff, sanding surfacers, varnishes, enamels, lacquers, etc.

Garnet is not as hard or sharp a mineral as silicon carbide but performs efficiently where its use is preferred.

Made by coating natural Garnet mineral on a flexible paper backing, using a waterproof adhesive for bonding the mineral to backing.

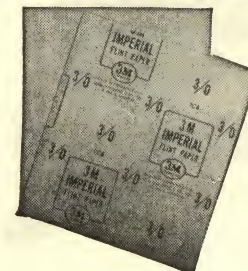
Packed 10 sleeves per unit package, 50 sheets per sleeve.

Symbol and Grit Nos.	Per 100 Sheets	Symbol and Grit Nos.	Per 100 Sheets
8/0	\$6.40	4/0	\$7.90
7/0	6.40	3/0	8.70
6/0	6.40	2/0	9.50
5/0	6.90	1/0	10.60

**3M Imperial Flint Paper**

In Sheets 9x10 inches

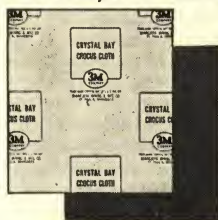
Closed coated for general sanding purposes. Made under scientifically controlled process. Only hard, sharp and clean quartz with positive control of uniformity of grain size used. Paper selected for its strength and pliability. Pure hide glue is used to hold flint grains to paper backing.



Symbol	Per 100 Sheets	Sheets per Pkg.	Sheets per Sleeve	Sleeves per Pkg.
Grit				
Very Fine	\$2.80	1000	100	10
Fine	2.80	1000	100	10
Medium	3.15	1000	100	10
Course	4.05	500	50	10
Very Course	5.15	500	50	10

Crystal Bay Crocus Cloth

In Sheets, 9x11 Inches



Used for polishing metal where a high finish is desired. When used with oil and under sufficient pressure, Crocus Cloth has mild abrading action which produces lustrous finish on well-sanded or ground surfaces.

Sleeves per unit package, 10; sheets per sleeve, 50.
Per 100 Sheets.....\$12.50

Crystal Bay Emery Cloth

In Sheets—9x11 Inches

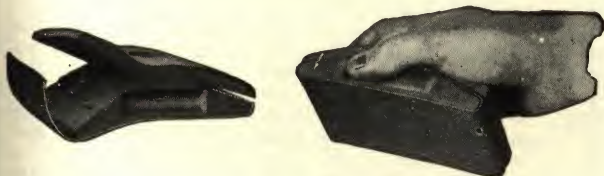
Made of the best quality of emery mineral.

Sleeves per unit package, 10.



Symbol	Per 100 Sheets	No. Sheets per Sleeve	Wt. Lb. per Pkg.
2/0 & Finer	\$12.50	50	37
1/0	12.50	50	39 1/2
1/2	13.00	50	44
1	13.60	50	48
1 1/2	14.20	50	57 1/2
2	15.20	25	34 1/2
2 1/2	16.40	25	39 1/2
3	17.70	25	49 1/2

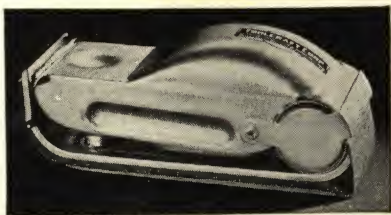
No. 3M Sanding Blocks



Wetordry mounted on this flexible rubbing block produces more satisfactory results on rough stuff or sanding surfacers than the old time rubbing stone or pumice gang. Operator's hand does not rest on abrasive. Stock size Wetordry sheet trims to fit it without waste.

No. 3M.....each \$1.29
Per Display (6 Blocks).....7.74

No. 12 Toolcraft Super Sanders



Fast cutting, easy loading, refillable sanding tool.

Made of steel, cadmium plated. Width, 2 inches.

Packed 3 sanders per counter display box, 12 per package.

No. 12, Weight per Package, 13 Pounds.....each \$1.65

Sandpaper Refill Rolls

Packed 12 in a box.

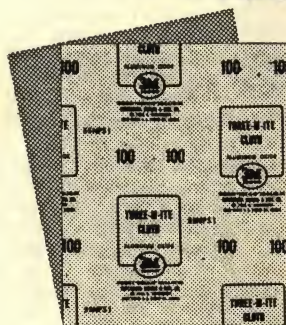
Grit No. 60, Coarse, Aluminum Oxide.....each \$.30

Grit No. 80, Medium, Aluminum Oxide.....each .30

Grit No. 120, Fine, Silicon Carbide.....each .30

Three-M-ite Elek-Tro-Cut Cloth

For Sanding and Finishing Metal by Hand
In Sheets—9x11 Inches



Aluminum oxide grains are electrostatically coated on a flexible cloth backing. Abrasive grains stand on end with sharp cutting edges fully exposed.

Uniform spacing of grains prevents filling.

Result is a faster-cutting, longer-wearing abrasive sheet.

Sleeves per unit package, 10.

Grit Nos.	Per 100 Sheets	Sheets per Sleeve	Grit Nos.	Per 100 Sheets	Sheets per Sleeve
*500-100	\$22.70	50	40	\$30.20	50
80	24.20	50	36	32.60	25
60	26.20	50	30	35.00	25
50	28.10	50	24	37.50	25

*Includes Nos. 500, 400, 320, 240, 180, 150, 120 and 100.

Three-M-ite Elek-Tro-Cut Cloth

Utility Rolls

For Hand Sanding of Metals



For foundries, machine shops and garages and tool and die-makers.

When mounted on a spindle over work bench, it is ready for instant use. Strips

of exact length can be torn as needed; helpful for handwork.

Heavy face prices indicate popular sizes.

Per 50-Yard Roll

Width In.	*320-100	80	60	50	Grit Nos. 40	36	30	24
1/2	\$3.50	\$3.70	\$3.90	\$4.10	\$4.30	\$4.50	\$4.70	\$4.90
3/4	4.70	4.90	5.20	5.40	5.70	6.10	6.40	6.80
1	5.80	6.00	6.50	6.80	7.20	7.70	8.10	8.60
1 1/2	8.10	8.40	9.00	9.60	10.20	10.90	11.50	12.20
2	10.30	10.80	11.60	12.30	13.10	14.00	14.90	15.90
2 1/4	11.40	12.00	12.90	13.70	14.60	15.60	16.60	17.70
2 1/2	12.50	13.20	14.20	15.10	16.10	17.20	18.40	19.50

*Includes prices on Grit Nos. 320, 240, 180, 150, 120 and 100.

The 1/2 and 3/4-inch sizes packed 20 rolls per unit package, 2 rolls per box. Other sizes packed 10 rolls per unit package, 1 roll per box.

Beaver Brand Steel Wool



Made of a special tempered steel.

One pound rolls packed 25 or 50 in a corrugated shipping carton.

Shipping weight 31 pounds and 61 pounds, respectively.

Description	Per Lb.	Description	Per Lb.
Grade 0000, Finest.....	Grade 2, Medium.....	....
Grade 000, Extra Fine.....	Grade 3, Coarse.....	....
Grade 00, Very Fine.....	Fine Shavings.....	....
Grade 0, Fine.....	Medium Shavings.....	....
Grade 1, Medium.....	Coarse Shavings.....	....

3M Cloth and Combination Backed Rolls



In general **Three-Mite** is used for metal working, **Production** or **Garnet** for wood-working and **Tri-Mite** for grinding.

glass, marble or cast stone and for finishing molded hard rubber and synthetic plastics.

X designates medium weight Drills Cloth which is recommended for all ordinary mechanical sanding operations.

J designates a lightweight, flexible Jeans Cloth which is made for work requiring a high degree of flexibility. Very pliable and will conform to irregular surfaces such as mouldings, flutes, turnings, etc.

Combination is a cloth combined with paper, producing a reinforced backing for heavy work.

The following closed coat Jeans cloth backing are furnished in Singleflex, 90° or straight across type of flexibility: Production Cloth J, 3M Garnet Cloth J, and Tri-M-ite Cloth J. Following open coat Jean cloth backing furnished with Fulflex, full type of flexibility, making material pliable in all directions: Production Cloth Open Coat J and 3M Garnet Cloth Open Coat J.

Aluminum Oxide

Trade Name	Coating	Symbol	Grit No.	Width In.
Three-M-ite Cloth X	Closed		320-24	$\frac{1}{2}$ -28
Production Cloth X	Closed	3/0-3	120-24	$\frac{1}{2}$ -36
Prod. Cloth Open Coat X ...	Open	3/0-3	120-24	$\frac{1}{2}$ -28
Production Cloth J	Closed	4/0- $\frac{1}{2}$	150-60	$\frac{1}{2}$ -28
Prod. Cloth Open Coat J ...	Open	4/0- $\frac{1}{2}$	150-60	$\frac{1}{2}$ -28
Production Combination	Closed	1/0-3 $\frac{1}{2}$	80-20	$\frac{1}{2}$ -24

..... Of Garnet

3M Garnet Cloth X.....	Closed	3/0-3	120-24	1/2-36
3M Garnet Cloth J.....	Closed	4/0- 1/2	150-60	1/2-28
3M Garnet Cloth Open Coat J.....	Open	4/0- 1/2	150-60	1/2-28
3M Garnet Combination.....	Closed	1/0-3 1/2	80-20	1/2-24
		1/2-2 1/2	60-30	25-26

Silicon Carbide

Tri-M-ite Cloth X.....	Closed.....	180-24	1/2-28
Tri-M-ite Cloth J.....	Closed.....	320-80	1/2-28
Tri-M-ite Comb.....	Closed.....	150-24	1/2-24

Per 50-Yard Roll

SYMBOL AND GRIT NOS.								
Width In.	2-0 & Finer 100 & Finer	1-0 80	1/2 60	1 50	1 1/2 40	2 36	2 1/2 30	3 24
1/2	\$2.60	\$2.80	\$3.00	\$3.20	\$3.40	\$3.60	\$3.80	\$4.00
1	4.90	5.10	5.60	5.90	6.30	6.80	7.20	7.70
1 1/2	7.10	7.50	8.10	8.70	9.30	10.00	10.60	11.30
2	9.40	9.90	10.70	11.40	12.20	13.10	14.00	15.00
2 1/2	11.60	12.30	13.30	14.20	15.20	16.30	17.50	18.60
3	13.80	14.60	15.90	16.90	18.10	19.50	20.90	22.30
3 1/2	16.10	17.00	18.40	19.70	21.10	22.70	24.30	25.90
4	18.30	19.40	21.00	22.50	24.00	25.90	27.70	29.60
5	22.80	24.10	26.20	28.00	30.00	32.30	34.50	36.90
6	27.30	28.90	31.30	33.50	35.90	38.60	41.30	44.10
7	31.80	33.60	36.50	39.00	41.80	45.00	48.20	51.40
8	36.30	38.40	41.60	44.50	47.70	51.40	55.00	58.70
9	40.70	43.10	46.80	50.00	53.60	57.70	61.80	66.00
10	45.20	47.90	51.90	55.60	59.50	64.10	68.60	73.30
12	54.20	57.40	62.20	66.60	71.30	76.90	82.30	87.90
14	63.10	66.80	72.60	77.60	83.20	89.60	95.90	102.50
15	67.60	71.60	77.70	83.10	89.10	96.00	102.70	109.80
16	72.10	76.30	82.90	88.70	95.00	102.40	109.60	117.00
18	81.10	85.80	93.20	99.70	106.80	115.10	123.20	131.60
20	90.00	95.30	103.50	110.70	118.60	127.80	136.80	146.20
*24	107.40	113.70	123.30	132.40	142.00	152.60	165.50	175.60
+24	99.60	105.60	114.80	123.00	132.00	142.40	152.60	163.20
*28	116.00	123.20	133.80	143.40	154.00	166.00	180.00	190.40
+30	126.90	134.40	145.90	156.20	167.40	180.40	193.20	206.40
+36	151.80	160.80	174.60	186.90	200.40	216.00	231.30	247.20

Intermediate widths furnished at next higher price.

Prices upon request: Symbol and grit nos. 3½, 20; 4, 16; 4½, 12.

Prices for special length rolls 25 yds. or more are proportionate to above prices plus charge of 20 cents per inch of width.

*Cloth only. †Combination only.

The $\frac{1}{4}$ -inch width contains 20 rolls per unit package; 1 through $2\frac{1}{2}$ -inch widths contain 10 rolls per unit package; 3 and $3\frac{1}{2}$ -inch widths contain 8 rolls per unit package; 4 and 5-inch widths contain 6 rolls per unit package; 6 and 7-inch widths contain 4 rolls per unit package; 8 and 9-inch widths contain 3 rolls per unit package; 10 through 15-inch widths contain 2 rolls per unit package; 16 through 36-inch widths contain 1 roll per unit package.

3M Paper Backed Rolls



For use on drum, belt, spindle or disc sanding machines.

Paper backing is E weight rope paper. This type of paper is made strong enough to overcome the tensile strains developed by motor-driven belt and drum sanders. Retains its original body throughout the sanding life of the mineral maintaining an aggressive cutting action.

Production abrasives primarily for wood working operations and for some metal sanding where it is practical to use paper backing in place of cloth.

Garnet abrasives are primarily for wood sanding.

Tri-M-ite abrasives used for sanding glass, marble and cast stone, soft metal, alloys and for special operations.

Closed coating denotes a full or complete coverage of entire surface of backing with abrasive grains.

Open coating denotes a uniform particle spacing.

Aluminum Oxide

Trade Name	Coating	Symbol	Grit No.	Width In.
Production.....	Closed	$\left\{ \begin{array}{l} 10/0-3\frac{1}{2} \\ 4/0-3 \end{array} \right.$	400-20 150-24	$\frac{1}{2}$ -24 25-36
Production.....	Closed	4/0-3	150-24	37-48
Production Open Coat....	Open	6/0-4	220-16	$\frac{1}{2}$ -24
	Garnet			
		$\left\{ \begin{array}{l} 6/0-3\frac{1}{2} \\ 4/0-3 \end{array} \right.$	220-20 150-24	$\frac{1}{2}$ -24 25-36
3M Garnet.....	Closed	$\left\{ \begin{array}{l} 3/0-3 \\ 2/0-3 \end{array} \right.$	120-24 100-24	37-42 43-48
3M Garnet Open Coat....	Open	3/0-3 $\frac{1}{2}$	120-20	$\frac{1}{2}$ -24
	Silicon Carbide			
Tri-M-ite.....	Closed	.....	400-24	$\frac{1}{2}$ -24
Tri-M-ite Open Coat.....	Open	.....	220-60	$\frac{1}{2}$ -24

Per 50-Yard Roll

SYMBOL AND GRIT NOS.—									
	10/0 to 2/0								
Width In.	400 to 100	1/0 80	1/2 60	1 50	1 1/2 40	2 36	2 1/2 30	3 24	3 1/2 20
1/2	\$1.34	\$1.44	\$1.60	\$1.76	\$1.94	\$2.12	\$2.30	\$2.50	\$2.70
1	2.30	2.50	2.80	3.10	3.50	3.80	4.20	4.60	5.00
1 1/2	3.20	3.50	4.00	4.50	5.00	5.60	6.10	6.70	7.30
2	4.20	4.60	5.20	5.90	6.60	7.30	8.00	8.80	9.60
2 1/2	5.10	5.60	6.40	7.20	8.10	9.00	9.90	10.90	11.90
3	6.10	6.70	7.60	8.60	9.70	10.80	11.90	13.00	14.20
3 1/2	7.00	7.70	8.80	10.00	11.20	12.50	13.80	15.10	16.50
4	8.00	8.80	10.00	11.30	12.80	14.20	15.70	17.20	18.80
5	9.90	10.80	12.40	14.10	15.80	17.70	19.50	21.40	23.40
6	11.80	12.90	14.80	16.80	18.90	21.10	23.30	25.60	28.00
7	13.70	15.00	17.20	19.50	22.00	24.60	27.10	29.70	32.60
8	15.60	17.10	19.70	22.30	25.10	28.10	31.00	33.90	37.20
9	17.50	19.20	22.10	25.00	28.20	31.50	34.80	38.10	41.80
10	19.40	21.30	24.50	27.70	31.30	35.00	38.60	42.30	46.40
12	23.20	25.40	29.30	33.20	37.40	41.90	46.20	50.70	55.60
14	26.90	29.60	34.10	38.70	43.60	48.80	53.90	59.10	64.80
15	28.80	31.70	36.50	41.40	46.70	52.30	57.70	63.30	69.50
16	30.70	33.80	38.90	44.10	49.80	55.70	61.50	67.50	74.10
18	34.50	38.00	43.70	49.60	56.00	62.60	69.20	75.80	83.30
20	38.30	42.20	48.60	55.10	62.20	69.60	76.80	84.20	92.50
24	41.00	45.40	52.60	60.00	68.00	76.40	84.60	93.00	102.40
26	46.80	51.60	59.40	67.40	76.00	85.10	94.00	103.10	113.30
27	48.50	53.50	61.60	69.90	78.90	88.30	97.60	107.00	117.60
30	51.20	56.70	65.70	75.00	85.00	95.50	105.70	116.20	128.00
31	55.40	61.00	70.40	79.90	90.20	101.10	111.70	122.60	134.70
36	61.50	68.10	78.90	90.00	102.00	114.60	126.90	139.50	153.60
40	68.30	75.70	87.70	100.00	113.40	127.40	141.00	155.00	170.70
42	71.70	79.40	92.00	105.00	119.00	133.70	148.00	162.80	179.20
44	77.60	85.60	98.80	112.40	127.00	142.40	157.70	172.90	190.10
48	82.00	90.80	105.20	120.60	136.00	152.80	169.20	186.00	204.80
50	87.80	97.00	112.00	127.40	144.10	161.60	178.70	196.20	

Heavy face prices indicate standard widths.

Intermediate widths furnished at next higher price.

Prices for special length rolls furnished upon request.

The 1/2-inch width contains 20 rolls per unit package, 1 through 2 1/2-inch width contain 10 rolls per unit package. 3 and 3 1/2-inch widths contain 8 rolls per unit package; 4 and 5-inch widths contain 6 rolls per unit package; 6 and 7-inch widths contain 4 rolls per unit package; 8 and 9-inch widths contain 3 rolls per unit package; 10 through 15-inch rolls contains 2 rolls per unit package; 16 through 50-inch widths contain 1 roll per unit package.

Three-M Cloth Belts

Production

Three-M-ite X or XHD, Three-M-ite Elek-Tro-Cut, Tri-M-ite

3M Garnet

Per 100 Belts

Size Inches	Description	SYMBOL AND GRIT NOS.							Belts Per Unit Package	
		2/0 & Finer 100 & Finer	1/0 80	1/2 60	1 50	1½ 40	2 36	2½ 30	3 24	
2 x21	Production X (Closed Coat Only)	\$27.20	\$27.60	\$28.80	\$29.60	\$30.40	\$31.20	\$32.40	\$33.60	50
	Other Cloth Belts	29.38	30.02	30.98	31.82	32.78	33.88	34.96	36.18	50
2¼x21½ ₁₆	Production X (Closed Coat Only)	30.40	31.20	32.40	33.20	34.40	36.00	37.20	38.40	50
	Other Cloth Belts	32.74	33.62	34.90	36.04	37.32	38.72	40.22	41.62	50
3 x23¾	Production X (Closed Coat Only)	34.40	35.20	37.20	38.40	40.00	41.60	43.60	45.20	50
	Other Cloth Belts	37.10	38.20	40.04	41.42	43.10	45.02	47.00	48.92	50
3 x24	Production X (Closed Coat Only)	34.40	35.20	37.20	38.40	40.00	41.60	43.60	45.20	50
	Other Cloth Belts	37.10	38.20	40.04	41.42	43.10	45.02	47.00	48.92	50
3 x25	Production X (Closed Coat Only)	35.20	36.00	38.00	39.20	40.80	42.80	44.40	46.40	50
	Other Cloth Belts	37.90	39.06	40.96	42.40	44.16	46.16	48.20	50.20	50
3 x27	Production X (Closed Coat Only)	36.40	37.60	39.60	41.20	42.80	44.80	46.80	48.80	50
	Other Cloth Belts	39.50	40.74	42.78	44.36	46.24	48.40	50.62	52.78	50
4 x27	Production X (Closed Coat Only)	59.60	61.20	63.60	65.60	68.00	70.80	73.20	76.00	50
	Other Cloth Belts	64.52	66.30	68.72	71.10	73.42	76.40	79.26	82.18	50
4½x26	Production X (Closed Coat Only)	61.60	63.20	65.60	67.60	70.00	72.80	75.60	78.00	50
	Other Cloth Belts	66.72	68.42	70.94	73.18	75.72	78.68	81.48	84.40	50

Three-M-ite X or XHD, Three-M-ite Elek-Tro-Cut, Tri-M-ite, 3 M Garnet
Production

2 x 70	Three-M-ite X or XHD	\$54.40	\$56.40	\$59.60	\$62.40	\$65.60	\$69.20	\$72.80	\$76.80	50
	Other Cloth Belts	55.94	58.04	61.26	64.06	67.28	70.92	74.56	78.62	50
2 1/2 x 48	Three-M-ite X or XHD	53.20	55.20	58.00	60.40	63.20	66.00	69.20	72.00	50
	Other Cloth Belts	54.66	56.58	59.36	61.86	64.64	67.72	70.98	74.06	50
2 1/2 x 60	Three-M-ite X or XHD	61.20	63.60	66.80	70.00	73.20	77.20	81.20	84.80	50
	Other Cloth Belts	62.70	65.10	68.58	71.70	75.18	79.02	83.10	86.94	50
3 x 120	Three-M-ite X or XHD	119.60	124.80	133.60	140.40	148.80	158.00	167.60	177.20	50
	Other Cloth Belts	122.52	128.04	137.16	144.12	152.52	162.12	171.96	181.56	50
3 x 132	Three-M-ite X or XHD	128.80	134.80	144.40	152.00	160.80	171.20	181.60	192.00	50
	Other Cloth Belts	132.08	138.14	148.18	155.84	165.08	175.64	186.46	197.02	50
3 x 138	Three-M-ite X or XHD	133.20	139.60	150.00	157.60	167.20	178.00	188.80	199.60	50
	Other Cloth Belts	136.84	143.20	153.68	161.68	171.34	182.38	193.70	204.74	50
3 x 141	Three-M-ite X or XHD	135.60	142.00	152.40	160.40	170.00	181.20	192.40	203.20	50
	Other Cloth Belts	139.24	145.72	156.44	164.62	174.48	185.76	197.32	208.60	50
3 x 148	Three-M-ite X or XHD	141.20	148.00	158.80	167.20	177.20	188.80	200.80	212.00	50
	Other Cloth Belts	144.80	151.62	162.86	171.44	181.80	193.64	205.78	217.62	50
3 x 168	Three-M-ite X or XHD	156.80	164.40	176.80	186.00	197.60	210.80	224.00	237.20	50
	Other Cloth Belts	160.72	168.46	181.22	190.96	202.72	216.16	229.94	243.38	50
4 x 35	Three-M-ite X or XHD	69.20	71.60	74.40	77.60	80.40	84.00	87.60	91.20	50
	Other Cloth Belts	72.96	75.28	78.42	81.50	84.52	88.36	92.08	95.86	50
4 x 36	Three-M-ite X or XHD	70.40	72.40	75.60	78.80	81.60	85.20	88.80	92.80	50
	Other Cloth Belts	74.02	76.40	79.64	82.80	85.90	89.86	93.68	97.56	50
4 x 36 1/4	Three-M-ite X or XHD	71.20	73.60	76.80	80.00	82.80	86.80	90.40	94.40	50
	Other Cloth Belts	75.08	77.52	80.84	84.10	87.28	91.36	95.28	99.28	50
4 x 52 1/2	Three-M-ite X or XHD	87.20	90.80	95.20	99.60	104.00	109.60	114.80	120.40	50
	Other Cloth Belts	91.96	95.46	100.24	104.90	109.46	115.28	120.90	126.64	50
4 x 54	Three-M-ite X or XHD	88.40	91.60	96.40	100.80	105.20	110.80	116.40	122.00	50
	Other Cloth Belts	93.02	96.58	101.44	106.20	110.84	116.78	122.50	128.34	50
4 x 118	Three-M-ite X or XHD	157.00	164.00	175.00	185.00	195.00	207.00	219.00	232.00	50
	Other Cloth Belts	160.60	168.40	179.02	189.40	199.54	212.52	225.04	237.78	50
4 x 132	Three-M-ite X or XHD	171.00	179.00	191.00	202.00	213.00	228.00	241.00	255.00	50
	Other Cloth Belts	175.40	184.10	195.98	207.60	218.96	233.48	247.46	261.72	50
4 x 138	Three-M-ite X or XHD	177.00	186.00	198.00	210.00	222.00	236.00	251.00	265.00	50
	Other Cloth Belts	181.72	190.84	203.26	215.40	227.26	242.44	257.08	271.98	50
4 x 141	Three-M-ite X or XHD	180.00	189.00	202.00	214.00	226.00	241.00	255.00	270.00	50
	Other Cloth Belts	184.90	194.20	206.90	219.30	231.42	246.94	261.88	277.12	50
4 x 148	Three-M-ite X or XHD	187.00	197.00	210.00	223.00	235.00	251.00	266.00	282.00	50
	Other Cloth Belts	192.28	202.06	215.38	228.40	241.12	257.40	273.10	289.08	50
4 x 168	Three-M-ite X or XHD	208.00	219.00	234.00	248.00	262.00	280.00	298.00	315.00	50
	Other Cloth Belts	213.40	224.50	239.62	254.40	268.84	287.32	305.14	323.28	50
6 x 48	Three-M-ite X or XHD	122.50	127.50	132.50	140.00	145.00	152.50	160.00	167.50	20
	Other Cloth Belts	129.64	134.16	140.78	146.92	153.56	161.04	168.52	176.30	20
6 x 54 1/2	Three-M-ite X or XHD	130.00	135.00	142.50	147.50	155.00	162.50	172.50	180.00	20
	Other Cloth Belts	140.68	145.86	153.44	160.48	168.08	176.66	185.24	194.14	20
6 x 168	Three-M-ite X or XHD	310.00	325.00	350.00	370.00	392.50	417.50	442.50	470.00	20
	Other Cloth Belts	318.76	334.56	357.74	379.24	402.44	428.64	454.84	482.06	20
8 x 61	Three-M-ite X or XHD	195.00	202.50	212.50	222.50	235.00	247.50	260.00	272.50	20
	Other Cloth Belts	199.98	207.30	218.64	228.90	240.12	253.18	265.86	278.92	20
8 x 107	Three-M-ite X or XHD	290.00	302.50	320.00	337.50	357.50	380.00	402.50	425.00	20
	Other Cloth Belts	296.48	309.32	329.22	347.20	366.90	389.80	412.04	434.94	20
9 x 85	Three-M-ite X or XHD	275.00	285.00	302.50	317.50	335.00	355.00	375.00	395.00	20
	Other Cloth Belts	280.92	292.66	310.84	326.66	344.34	364.40	384.62	405.20	20
10 x 70 1/2	Three-M-ite X or XHD	268.00	280.00	296.00	310.00	326.00	344.00	362.00	380.00	10
	Other Cloth Belts	275.46	286.52	302.86	318.06	334.10	352.98	371.44	390.76	10

10 Belts per Nest

3M Paper Backed Abrasive Discs

3M Flint Paper
3M Garnet Paper
Production Paper
Tri-M-ite Paper
Per 100 Discs

SYMBOL AND GRIT NOS.

Diam. In. and Finer	2/0 and Finer	1/0 80	1/2 60	1 50	1 1/2 40	2 36	2 1/2 30	3 24	3 1/2 20
1	\$1.00	\$1.00	\$1.00	\$1.00	\$1.10	\$1.10	\$1.10	\$1.10	\$1.20
2	1.30	1.40	1.40	1.50	1.60	1.70	1.80	1.80	1.90
3	1.80	1.90	2.10	2.30	2.50	2.70	2.80	3.00	3.20
3 1/2	2.20	2.30	2.50	2.80	3.00	3.30	3.50	3.80	4.10
4	2.60	2.80	3.00	3.30	3.70	4.00	4.40	4.70	5.10
5	3.60	3.90	4.30	4.80	5.30	5.90	6.40	6.90	7.50
6	4.90	5.30	5.90	6.60	7.30	8.10	8.90	9.60	10.50
7	7.30	7.90	8.80	9.70	10.70	11.70	12.80	13.80	15.00
8	8.90	9.60	10.80	12.00	13.30	14.70	16.00	17.40	18.90
9 1/2	11.60	12.50	14.00	15.50	17.10	18.90	20.60	22.30	24.30
10	14.40	15.50	17.30	19.20	21.20	23.40	25.50	27.60	30.00
12	21.20	22.90	25.50	28.20	31.20	34.30	37.30	40.40	43.80
14	30.00	32.20	35.80	39.50	43.50	47.70	51.80	56.00	60.70
15	35.30	37.80	42.00	46.20	50.80	55.60	60.40	65.20	70.60
16	40.80	43.60	48.30	53.20	58.40	63.90	69.20	74.70	80.90
18	51.80	55.40	61.40	67.50	74.10	81.00	87.80	94.80	102.50
20	62.50	67.00	74.30	81.90	90.10	98.60	107.00	115.60	125.20
*22	73.60	79.00	87.90	97.10	106.90	117.30	127.40	137.80	149.40
*23	79.40	85.30	95.00	105.00	115.80	127.20	138.30	149.60	162.30

Intermediate diameters take the next higher price and are packed according to next greater diameter.

*Where orders are for less than 25 unit packages of a single specification, add 10% to price.

Diam. In.	No. Per Unit Pkg.	No. Per Box
Less than 2.....	2000	500
Over 2 thru 4.....	2000	250
Over 4 thru 9 1/2.....	500	100
Over 9 1/2 thru 23.....	100	50

3M Fiber Backed Discs
Aluminum Oxide

Specify center hole size. Standard center holes are 1/2 or 3/8-inch unslotted. Center hole 3/8 inch can be furnished slotted on request.

Type A—Fiber Combination Backing

Aluminum oxide mineral. Closed coating.
Available in grits, 180, 150, 120, 100, 80, 60, 50, 36, 30, 24 and 16.

Type B—Fiber Combination Backing

Aluminum oxide mineral. Open coating.
Available in grits 120, 100, 80, 60, 50, 36, 24 and 16.

Type C—Heavy Fiber Backing

Aluminum oxide mineral. Closed coating.
Available in grits 150, 120, 100, 80, 60, 50, 36, 24 and 16.

Diam. In. and Finer	80	60	50	36	*30	24	16
6	\$48.90	\$52.10	\$54.70	\$58.50	\$59.20	\$59.90	\$77.10
7	52.50	55.70	58.70	62.80	63.50	64.10	82.50
8	59.50	63.20	66.40	71.20	71.90	72.80	93.60
9 1/2	70.00	74.40	78.10	83.60	84.70	85.50	110.00

Flat Type

Grit Nos.

Diam. In. and Finer	80	60	50	36	*30	24	16
7	\$61.70	\$64.90	\$67.90	\$72.00	\$72.80	\$73.30	\$91.90
9 1/2	82.30	86.70	90.50	95.90	96.90	97.90	122.30

Depressed center furnished with 1-inch center hole only.

Intermediate diameters furnished at next higher prices.

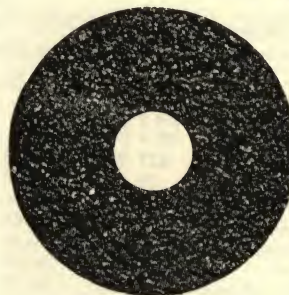
*Available in Type A only, 100 Disc per unit pkg.

Three-M-ite Cloth Discs

R Weight

Made with a heavy coating of aluminum oxide abrasive grains on a cloth backing.

For heavy grinding and sanding on metals such as cast iron, steel, aluminum, brass, bronze and other alloys. Discs in all diam. up to and including 36 in. will be furnished in one piece and discs in diam. over 36 to 53 in. inclusive will be supplied in two pieces.



Per Disc

Diam. In.	120	80	60	40	30	20	16	12	Dises per Discs Unit per Pkg. Box
1	\$.04	\$.04	\$.04	\$.04	\$.04	\$.04	\$.04	\$.06	50 25
2	.08	.08	.08	.08	.08	.08	.08	.10	50 25
3	.12	.12	.12	.12	.14	.14	.16	.16	50 25
4	.16	.16	.16	.18	.20	.20	.24	.26	50 25
5	.18	.20	.22	.24	.26	.28	.32	.36	50 25
6	.24	.26	.28	.30	.34	.38	.42	.48	50 25
8	.38	.40	.44	.48	.56	.62	.72	.82	50 25
9	.46	.48	.54	.60	.68	.76	.88	1.02	50 25
10	.56	.60	.66	.72	.82	.92	1.08	1.24	50 25
12	.76	.82	.88	1.00	1.14	1.28	1.52	1.74	50 25
15	1.12	1.22	1.34	1.50	1.74	1.96	2.32	2.68	20 10
18	1.58	1.72	1.88	2.12	2.46	2.78	3.30	3.82	20 10
20	1.96	2.12	2.32	2.62	3.04	3.44	4.08	4.72	20 10
23	2.56	2.78	3.06	3.46	3.98	4.52	5.36	6.20	20 10
24	2.78	3.02	3.32	3.76	4.34	4.92	5.82	6.76	10 5
26	3.22	3.50	3.86	4.36	5.06	5.74	6.80	7.88	10 5
30	4.24	4.62	5.08	5.76	6.66	7.58	9.00	10.44	10 5
36	6.06	6.60	7.28	8.24	9.56	10.88	12.90	15.00	10 5
40	7.50	8.18	9.00	10.20	11.82	13.46	15.96	18.54	10 5
48	11.10	12.08	13.26	14.98	17.32	19.66	23.26	27.00	10 5
53	13.32	14.50	15.96	18.06	20.90	23.74	27.76	32.64	10 5

Intermediate diameters furnished at next higher price.

Distic



A cement for applying and changing polishing and abrasive discs.

Before using Distic, clean the surface of the steel disc with a scraper

or putty knife; then apply a generous application of the cement while disc is in motion. Stick the abrasive or polishing disc on the steel disc which has just had an application of Distic and press on firmly. When polishing or abrasive surface is worn off, disc can be easily and instantly removed. The complete changing of discs can readily be made within fifteen seconds.

An average of forty to fifty applications in each stick.

Weight per stick, 8 ounces. Packed in boxes of 12 and 24 sticks.

Per Stick..... \$.50

Super-Speed Valve Grinding Compound
by "CARBORUNDUM"

A fast-cutting water mixed compound that leaves smooth uniform finish and produces a power-tight valve seating.

Made of medium grit silicon carbide; combines roughing and finishing into one operation.

Standard package, 12.

No.....	490	491	492	493
Per Can.....	\$.90	1.20	2.00	3.50
Size Can.....	2	4	8	16
Weight per 12.....	3	5 1/4	3 1/4	16 1/2

Grains and Powders by "CARBORUNDUM"



Abrasive grain and powder are graded and inspected. Structure is controlled to assure maximum cutting edges of the abrasive. Chemical and physical control of raw materials and of the furnace in which the abrasive is produced results in uniformity of strength.

Silicon Carbide grains are graded in grit sizes: 4, 6, 8, 10, 12, 14, 16, 20, 24, 30, 36, 46, 54, 60, 70, 80, 90, 100, 120, 150, 180, 220 and 240. Powders graded: F, FF, FFF and also 280, 320, 400, 500 and 600.

Aluminum Oxide grains are graded in grit sizes: 4, 6, 8, 10, 12, 14, 16, 20, 24, 30, 36, 46, 54, 60, 70, 80, 90, 100, 120, 150, 180, 220 and 240. Powders graded F, FF, FFF; also 280, 320, 400, 500, 600, 700, 800, 900, 1000.

Silicon Carbide

Grit Size	*Car-Load Per Lb.	†Ton Per Lb.	‡Keg Per Lb.	100-Lb. Drum Per Lb.	50-Lb. Drum Per Lb.	25-Lb. Drum Per Lb.	10-Lb. Can Per Lb.	5-Lb. Can Per Lb.	1-Lb. Can Per Lb.
4.240	\$.2025	\$.2125	\$.2225	\$.2425	\$.265	\$.2975	\$.385	\$.52	\$.83
F, FF, FFF	.2275	.2375	.245	.265	.29	.32	.41	.57	.88
280, 320, 400	.....	.3925	.40	.4225	.445	.4775	.5675	.73	1.09
500	.....	.4375	.445	.4675	.49	.52	.61	.78	1.15
600	.....	.6025	.61	.63	.655	.685	.7825	.94	1.35

Aluminum Oxide

Grit Size	*Car-Load Per Lb.	†Ton Per Lb.	‡Keg Per Lb.	100-Lb. Drum Per Lb.	50-Lb. Drum Per Lb.	25-Lb. Drum Per Lb.	10-Lb. Can Per Lb.	5-Lb. Can Per Lb.	1-Lb. Can Per Lb.
4-240	\$.1475	\$.1575	\$.165	\$.1875	\$.21	\$.24	\$.33	\$.47	\$.78
F, FF, FFF	.17	.18	.1875	.21	.23	.2625	.35	.49	.84
280, 320, 400	.....	.365	.375	.3975	.4175	.45	.545	.68	1.04
500	.....	.4075	.415	.44	.46	.4925	.585	.72	1.10
600	.....	.565	.575	.595	.6175	.6475	.7425	.88	1.25
700-900	.....	.....	.8375	.89	.94	1.0975	1.36	1.52	1.88
1000	.....	.....	1.045	1.0975	1.15	1.3075	1.5675	1.73	2.09

*36,000-pound carload (300-pound keg minimum for Silicon Carbide; 360-pound keg minimum for aluminum oxide).

†Tons packed in kegs; 300-pound keg for Silicon Carbide; 360-pound keg for aluminum oxide.

‡Approximate weight of keg: for Silicon Carbide, 300 pounds; for aluminum oxide, 360 pounds.

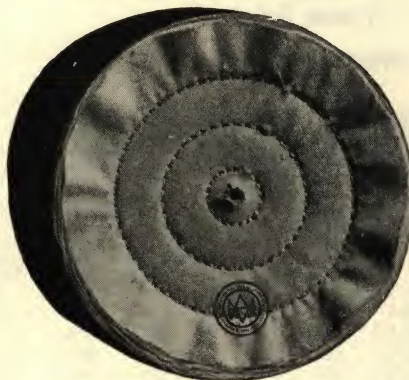
Grease Mixed Valve Grinding Compound by "CARBORUNDUM"**Silicon Carbide**

Fast and clean cutting, removes carbon and produces a smooth power-tight valve seat.

Made in coarse and medium grits for roughing and fine grit for polishing.

Standard package, 1 dozen 1-lb. cans or one 5-lb. can.

No. Each	1-Pound Cans			5-Lb. Cans		
	Fine	Medium	Coarse	Fine	Medium	Coarse
Weight per Std. Pkg.	360	361	362	363	364	365
	\$3.50	3.50	3.50	14.40	14.40	14.40
	17	17	17	5 1/4	5 1/4	5 1/4

Muslin and Canton Flannel Wheels

Furnished with hard centers, concentric machine sewed.

Made from 64-68 unbleached muslin and 8-ounce canton flannel.

Eighteen pieces of muslin equal 1/4 inch in thickness.

Eight pieces of canton flannel equal 1/4 inch in thickness.

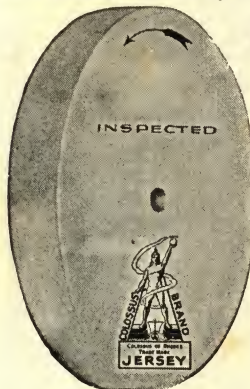
Diam. Inches	Muslin		
	Pieces Thick	Rows of Sewing	Per 100
2	30	1	\$11.27
2 1/2	35	1	14.49
3	40	2	20.85
4	42	2	32.55
5	45	2	49.42
6	50	3	73.49
7	50	3	95.04
8	55	4	139.34

Diam. Inches	Canton Flannel		
	Pieces Thick	Rows of Sewing	Per 100
2	30	2	\$43.58
2 1/2	30	2	60.03
3	30	3	80.20
4	30	3	104.76
5	30	4	129.52

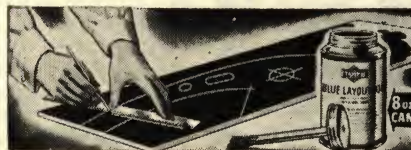
Colossus Brand White Spanish Felt Polishing Wheels**Medium—Jersey Grade**

Made in various degrees of hardness from extra soft to rock hard. Made of the finest selected felting wools.

Free from any artificial sizing. Used by coating the face with emery bonded by hide glue and may also be used with either rouge or tripoli.



Diam. Inches	Face Inches	Arbor Hole Inches	Weight Pounds	Each
6	1	3/4	10 1/16	.....
6	1 1/2	3/4	1	.....
8	1	3/4	13 1/16	.....
8	1 1/2	3/4	18 1/16	.....
10	1 1/2	1	25 1/16	.....
10	2	1	33 1/16	.....
12	1	1 1/4	29 1/16	.....
12	2	1 1/4	41 1/16	.....
14	1	1 1/4	39 1/16	.....
14	2	1 1/4	64 1/16	.....
16	1	1 1/4	41 1/16	.....
16	2	1 1/4	84 1/16	.....
18	1	1 1/4	51 1/16	.....
18	2	1 1/4	108 1/16	.....

Tamms Blue Layout Dope

Used by machinists, tool makers, die makers, etc., for layout work on brass, aluminum, copper, tin, stainless steel, etc.

Scribed lines have a pronounced contrast against the dark background and thereby relieve eye strain.

Apply the dope with a soft cloth or brush, dries instantly, non-rubbing and will not chip or scrape off.

Size Can	8-Oz.	1-Pt.	1-Qt.	1-Gal.	5-Gal.
Per Can	\$.75	.95	1.40	4.00	*3.75
No. in Case	48	24	12	4	.....

*Per gallon.

Standard Red Shield Taper Shank Twist Drills

High Speed Steel



Diam. In.	No. 550, —Regular Shanks—			No. 500, Shanks Smaller than Regular			No. 500A, Shanks Larger than Regular		
	Each	Length Overall In.	Shank Taper No.	Each	Length Overall Inches	Shank Taper No.	Each	Length Overall Inches	Shank Taper No.
1/8	\$.69	5 1/8	1	.....	.....	.....	.....	.....	.....
9/64	.76	5 3/8	1	.....	.....	.....	.....	.....	.....
5/32	.76	5 3/8	1	.....	.....	.....	.....	.....	.....
11/64	.86	5 3/8	1	.....	.....	.....	.....	.....	.....
3/16	.86	5 3/4	1	.....	.....	.....	.....	.....	.....
13/64	.93	6	1	.....	.....	.....	.....	.....	.....
7/32	.93	6	1	.....	.....	.....	.....	.....	.....
15/64	.96	6 1/8	1	.....	.....	.....	.....	.....	.....
1/4	.96	6 1/8	1	.....	.....	.....	.....	.....	.....
17/64	1.03	6 1/4	1	.....	.....	.....	.....	.....	.....
9/32	1.03	6 1/4	1	.....	.....	.....	.....	.....	.....
19/64	1.10	6 3/8	1	.....	.....	.....	.....	.....	.....
5/16	1.10	6 3/8	1	.....	.....	.....	.....	.....	.....
21/64	1.17	6 1/2	1	.....	.....	.....	.....	.....	.....
11/32	1.17	6 1/2	1	.....	.....	.....	.....	.....	.....
23/64	1.31	6 3/4	1	.....	.....	.....	.....	.....	.....
3/8	1.31	6 3/4	1	.....	.....	.....	\$1.45	7 3/8	2
25/64	1.45	7	1	.....	.....	.....	1.55	7 1/2	2
13/32	1.45	7	1	.....	.....	.....	1.55	7 1/2	2
27/64	1.58	7 1/4	1	.....	.....	.....	1.69	7 3/4	2
7/16	1.58	7 1/4	1	.....	.....	.....	1.69	7 3/4	2
29/64	1.72	7 1/2	1	.....	.....	.....	1.83	8	2
15/32	1.72	7 1/2	1	.....	.....	.....	1.83	8	2
31/64	2.04	8 1/4	2	\$1.90	7 3/4	1	.....	.....	.....
1/2	2.04	8 1/4	2	1.90	7 3/4	1	.....	.....	.....
33/64	2.25	8 1/2	2	2.10	8	1	.....	.....	.....
17/32	2.25	8 1/2	2	2.10	8	1	.....	.....	.....
35/64	2.59	8 3/4	2	2.42	8 1/4	1	.....	.....	.....
9/16	2.59	8 3/4	2	2.42	8 1/4	1	.....	.....	.....
37/64	2.77	8 3/4	2	.....	.....	.....	.....	.....	.....
19/32	2.77	8 3/4	2	.....	.....	.....	.....	.....	.....
39/64	2.94	8 3/4	2	.....	.....	.....	.....	.....	.....
5/8	2.94	8 3/4	2	.....	.....	.....	.....	.....	.....
41/64	3.28	9	2	.....	.....	.....	3.56	9 3/4	3
21/32	3.28	9	2	.....	.....	.....	3.56	9 3/4	3
43/64	3.63	9 1/4	2	.....	.....	.....	3.95	10	3
11/16	3.63	9 1/4	2	.....	.....	.....	3.95	10	3
45/64	3.98	9 1/2	2	.....	.....	.....	4.29	10 1/4	3
23/32	3.98	9 1/2	2	.....	.....	.....	4.29	10 1/4	3
47/64	4.33	9 3/4	2	.....	.....	.....	4.67	10 1/2	3
3/4	4.33	9 3/4	2	.....	.....	.....	4.67	10 1/2	3
49/64	4.50	9 7/8	2	.....	.....	.....	4.85	10 5/8	3
25/32	4.50	9 7/8	2	.....	.....	.....	4.85	10 5/8	3
51/64	5.02	10 3/4	3	4.67	10	2	.....	.....	.....
13/16	5.02	10 3/4	3	4.67	10	2	.....	.....	.....
53/64	5.30	10 3/4	3	4.94	10	2	.....	.....	.....
27/32	5.30	10 3/4	3	4.94	10	2	.....	.....	.....
55/64	5.57	10 3/4	3	5.19	10	2	.....	.....	.....
7/8	5.57	10 3/4	3	5.19	10	2	.....	.....	.....
57/64	5.85	10 3/4	3	5.44	10	2	.....	.....	.....
29/32	5.85	10 3/4	3	5.44	10	2	.....	.....	.....
59/64	6.13	10 3/4	3	.....	.....	.....	.....	.....	.....
15/16	6.13	10 3/4	3	.....	.....	.....	.....	.....	.....
61/64	6.68	11	3	.....	.....	.....	.....	.....	.....
31/32	6.68	11	3	.....	.....	.....	.....	.....	.....
63/64	7.10	11	3	.....	.....	.....	.....	.....	.....
1	7.10	11	3	.....	.....	.....	.....	.....	.....
11/64	7.62	11 1/8	3	.....	.....	.....	7.76	12	4
17/32	7.62	11 1/8	3	.....	.....	.....	8.32	12 1/8	4
19/64	8.14	11 1/4	3	.....	.....	.....	8.32	12 1/8	4
13/16	8.14	11 1/4	3	.....	.....	.....	8.87	12 1/4	4
15/16	8.14	11 1/4	3	.....	.....	.....	8.87	12 1/4	4
17/64	9.18	12 1/4	4	8.45	11 1/2	3	.....	.....	.....
13/32	9.18	12 1/4	4	8.45	11 1/2	3	.....	.....	.....
17/64	9.88	12 3/4	4	9.11	11 3/4	3	.....	.....	.....
1 1/8	9.88	12 3/4	4	9.11	11 3/4	3	.....	.....	.....
19/64	10.40	12 7/8	4	9.60	11 7/8	3	.....	.....	.....
1 1/32	10.40	12 7/8	4	9.60	11 7/8	3	.....	.....	.....

Standard Red Shield Taper Shank Twist Drills High Speed Steel

No. 500A drills not made larger than 1 1/16 inch.

Diam. Inches	No. 550, Regular Shanks			No. 500, Shanks Smaller than Regular		
	Each	Length Overall Inches	Shank Taper No.	Each	Length Overall Inches	Shank Taper No.
11 1/64	\$10.91	13	4	\$10.08	12	3
13 1/16	10.91	13	4	10.08	12	3
13 1/8	11.43	13 1/8	4	10.57	12 1/8	3
17 3/32	11.43	13 1/8	4	10.57	12 1/8	3
11 5/64	12.48	13 1/8	4	11.54	12 1/2	3
11 1/4	12.48	13 1/2	4	11.54	12 1/2	3
11 7/64	13.87	14 1/8	4	.....	.....	.....
19 3/32	13.87	14 1/8	4	.....	.....	.....
11 9/64	14.38	14 1/4	4	.....	.....	.....
15 1/16	14.38	14 1/4	4	.....	.....	.....
12 1/64	14.90	14 3/8	4	.....	.....	.....
11 11/32	14.90	14 3/8	4	.....	.....	.....
12 3/32	15.42	14 1/2	4	.....	.....	.....
13 3/8	15.42	14 1/2	4	.....	.....	.....
12 5/64	15.95	14 5/8	4	.....	.....	.....
11 13/32	15.95	14 5/8	4	.....	.....	.....
12 7/64	16.46	14 3/4	4	.....	.....	.....
17 1/16	16.46	14 3/4	4	.....	.....	.....
12 9/64	16.98	14 7/8	4	.....	.....	.....
11 5/32	16.98	14 7/8	4	.....	.....	.....
13 1/64	17.50	15	4	.....	.....	.....
1 1/2	17.50	15	4	.....	.....	.....
13 3/64	19.93	16 3/8	5	18.26	15	4
11 7/32	19.93	16 3/8	5	18.26	15	4
13 5/64	21.31	16 5/8	5	19.55	15 1/4	4
19 1/16	21.31	16 5/8	5	19.55	15 1/4	4
13 7/64	22.70	16 7/8	5	20.87	15 1/2	4
11 9/32	22.70	16 7/8	5	20.87	15 1/2	4
13 9/64	23.57	17	5	21.66	15 5/8	4
15 8	23.57	17	5	21.66	15 5/8	4
14 1/64	24.44	17 1/8	5	22.46	15 3/4	4
12 1/32	24.44	17 1/8	5	22.46	15 3/4	4
14 3/64	25.30	17 3/8	5	23.26	15 3/4	4
11 1/16	25.30	17 3/8	5	23.26	15 3/4	4
14 5/64	26.17	17 3/8	5	24.06	15 3/4	4
12 3/32	26.17	17 3/8	5	24.06	15 3/4	4
14 7/64	27.04	17 3/8	5	25.65	16 1/4	4
13 1/4	27.04	17 3/8	5	25.65	16 1/4	4
12 5/32	27.91	17 3/8	5	26.48	16 1/4	4
11 13/16	28.77	17 3/8	5	27.32	16 1/4	4
12 7/32	29.64	17 3/8	5	28.12	16 1/4	4
17 8	31.20	17 3/8	5	29.64	16 1/2	4
12 9/32	32.07	17 3/8	5	30.47	16 1/2	4
11 5/16	32.93	17 3/8	5	31.51	16 5/8	4
13 1/32	33.80	17 3/8	5	32.34	16 5/8	4
2	34.67	17 3/8	5	33.18	16 5/8	4
21 3/32	35.88	17 3/8	5	.....	.....	.....
21 1/16	37.09	17 3/8	5	.....	.....	.....
23 3/32	38.31	17 3/8	5	.....	.....	.....
21 1/8	39.52	17 3/8	5	.....	.....	.....
25 3/32	40.73	17 3/8	5	.....	.....	.....
23 1/16	41.95	17 3/8	5	.....	.....	.....
27 3/32	43.16	17 3/8	5	.....	.....	.....
21 1/4	44.38	17 3/8	5	.....	.....	.....
25 1/16	46.80	17 3/8	5	.....	.....	.....
23 3/8	49.23	17 3/8	5	.....	.....	.....
27 1/16	60.67	18 3/4	5	.....	.....	.....
21 1/2	63.10	18 3/4	5	.....	.....	.....
29 1/16	69.35	19 1/2	5	.....	.....	.....
25 8	72.81	19 1/2	5	.....	.....	.....
21 11/16	80.09	20 3/8	5	.....	.....	.....
23 1/4	83.56	20 3/8	5	.....	.....	.....
21 3/16	89.80	21 1/8	5	.....	.....	.....
27 8	93.62	21 1/8	5	.....	.....	.....
21 5/16	98.81	21 3/4	5	.....	.....	.....
3	104.02	21 3/4	5	.....	.....	.....
31 1/16	123.44	24 7/16	6	110.96	22	5
37 8	131.07	24 7/16	6	117.89	22	5
33 1/16	138.70	24 7/16	6	124.83	22	5
31 1/4	149.79	25 7/16	6	135.23	23	5
35 1/16	160.89	25 7/16	6	145.63	23	5
37 8	172.68	25 7/16	6	156.03	23	5
37 1/16	184.47	25 7/16	6	166.04	23	5
3 1/2	199.03	26 7/16	6	180.31	24	5

No. 104 Standard Taper Shank Twist Drills

Carbon Steel

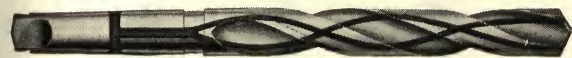


Diam. Inches	Each	Decimal Equiv.	Lgth. Over-Taper all Shank In. No.	Diam. Inches	Each	Decimal Equiv.	Lgth. Over-Taper all Shank In. No.
1/8	\$.42	.1250	5 1/8 1	5 3/4	\$2.28	.8281	10 2
9/64	.42	.1406	5 3/8 1	2 7/32	2.28	.8437	10 2
5/32	.42	.1562	5 3/4 1	5 5/64	2.47	.8594	10 2
1 1/64	.47	.1719	5 3/4 1	7/8	2.47	.8750	10 2
3/16	.47	.1875	5 3/4 1	5 7/64	2.66	.8906	10 2
1 1/64	.52	.2031	6 1	2 9/32	2.66	.9062	10 2
7/32	.52	.2187	6 1	5 9/64	2.85	.9219	10 3/4 3
1 1/64	.57	.2344	6 1/8 1	1 5/16	2.85	.9375	10 3/4 3
1/4	.57	.2500	6 1/8 1	6 1/64	3.08	.9531	11 3
1 1/64	.61	.2656	6 1/4 1	3 1/32	3.08	.9687	11 3
9/32	.61	.2812	6 1/4 1	6 3/64	3.32	.9844	11 3
1 1/64	.66	.2969	6 3/8 1	1	3.32	1.0000	11 3
5/16	.66	.3125	6 3/8 1	1 1/64	3.56	1.0156	11 3/8 3
2 1/64	.71	.3281	6 1/2 1	1 1/32	3.56	1.0312	11 3/8 3
1 1/32	.71	.3437	6 1/2 1	1 3/64	3.80	1.0469	11 3/4 3
2 1/64	.76	.3594	6 3/4 1	1 1/16	3.80	1.0625	11 3/4 3
3/8	.76	.3750	6 3/4 1	1 5/64	4.03	1.0781	11 1/2 3
2 1/64	.85	.3906	7 1	1 5/32	4.03	1.0937	11 1/2 3
1 1/32	.85	.4062	7 1	1 7/64	4.27	1.1094	11 3/4 3
2 1/64	.95	.4219	7 1/4 1	1 1/8	4.27	1.1250	11 3/4 3
7/16	.95	.4375	7 1/4 1	1 9/64	4.51	1.1406	11 7/8 3
2 1/64	1.04	.4531	7 1/2 1	1 5/32	4.51	1.1562	11 7/8 3
1 1/32	1.04	.4687	7 1/2 1	1 11/64	4.75	1.1719	12 3
3 1/64	1.14	.4844	7 3/4 1	1 13/64	4.75	1.1875	12 3
1/2	1.14	.5000	7 3/4 1	1 13/64	4.98	1.2031	12 1/8 3
3 1/64	1.23	.5156	8 1	1 17/32	4.98	1.2187	12 1/8 3
1 1/32	1.23	.5312	8 1	1 11/64	5.22	1.2344	12 1/2 3
3 1/64	1.33	.5469	8 1/4 1	1 1/4	5.22	1.2500	12 1/2 3
9/16	1.33	.5625	8 1/4 1	1 9/32	5.46	1.2812	14 1/8 4
3 1/64	1.42	.5781	8 3/4 2	1 5/16	5.70	1.3125	14 1/4 4
1 1/32	1.42	.5937	8 3/4 2	1 11/32	5.93	1.3437	14 3/8 4
3 1/64	1.52	.6094	8 3/4 2	1 13/8	6.17	1.3750	14 1/2 4
5/8	1.52	.6250	8 3/4 2	1 11/32	6.65	1.4062	14 5/8 4
4 1/64	1.61	.6406	9 2	1 17/16	7.12	1.4375	14 3/4 4
2 1/32	1.61	.6562	9 2	1 11/32	7.60	1.4687	14 7/8 4
4 1/64	1.71	.6719	9 1/4 2	1 1/2	8.07	1.5000	15 4
1 1/16	1.71	.6875	9 1/4 2				
4 1/64	1.80	.7031	9 1/2 2	1 9/16	9.02	1.5625	15 1/4 4
2 1/32	1.80	.7187	9 1/2 2	1 5/8	9.97	1.6250	15 5/8 4
4 1/64	1.90	.7344	9 3/4 2	1 11/16	10.92	1.6875	15 3/4 4
3/4	1.90	.7500	9 3/4 2	1 13/16	11.87	1.7500	16 1/4 4
4 1/64	1.99	.7656	9 3/4 2	1 11/16	13.30	1.8125	16 1/4 4
2 1/32	1.99	.7812	9 3/4 2	1 7/8	14.72	1.8750	16 1/2 4
5 1/64	2.09	.7969	10 2	1 11/16	16.15	1.9375	16 5/8 4
1 1/16	2.09	.8125	10 2	2	17.57	2.0000	16 5/8 4

Standard Oil Hole Twist Drills

High Speed Steel

No. 509 Taper Shank



No. 510 Straight Shank



Can be used in screw machines or in any machine fitted to give a supply of lubricant. Especially designed for drilling deep holes.

From the nature of the work requiring oil hole drills, it is obvious that the best results are obtained from these tools when made of **high speed** steel.

This drill has holes through solid metal.

Drills smaller than 1/2 inch are recommended with one hole.

No. 505A Standard Taper Shank Twist Drills

Red Shield High Speed Steel

Letter Sizes



With No. 1 taper shank.

Size	Each	Length Overall Inches	Decimal Equiv. all Shank Inches	Size	Each	Length Overall Inches	Decimal Equiv. all Shank Inches
A	\$.96	6 1/8	.234	N	\$1.10	6 3/8	.302
B	.96	6 1/8	.238	O	1.17	6 1/2	.316
C	.96	6 1/8	.242	P	1.17	6 1/2	.323
D	.96	6 1/8	.246	Q	1.17	6 1/2	.332
E	.96	6 1/8	.250	R	1.17	6 1/2	.339
F	1.03	6 1/4	.257	S	1.31	6 3/4	.348
G	1.03	6 1/4	.261	T	1.31	6 3/4	.358
H	1.03	6 1/4	.266	U	1.31	6 3/4	.368
I	1.03	6 1/4	.272	V	1.45	7	.377
J	1.03	6 1/4	.277	W	1.45	7	.386
K	1.03	6 1/4	.281	X	1.45	7	.397
L	1.10	6 3/8	.290	Y	1.45	7	.404
M	1.10	6 3/8	.295	Z	1.58	7 1/4	.413

Standard Taper Shank Twist Drills

High Speed Steel

No. 511—3-Fluted

No. 512—4-Fluted



No. 512

Diam. In.	Each	Dec. Equiv. In.	Lgth. Over-Taper all Shank In. No.	Diam. In.	Each	Dec. Equiv. In.	Lgth. Over-Taper all Shank In. No.
*1/4	\$1.95	.2500	6 1/8 1	1 11/32	\$19.95	1.4062	14 5/8 4
*9/32	2.02	.2812	6 1/4 1	1 7/16	20.83	1.4375	14 3/4 4
*5/16	2.09	.3125	6 3/8 1	1 11/32	21.72	1.4687	14 7/8 4
*1 1/16	2.16	.3437	6 1/2 1	1 1/2	22.61	1.5000	15 4
*3/8	2.30	.3750	6 3/4 1	1 17/32	25.28	1.5312	16 3/8 5
*1 1/8	2.45	.4062	7 1	1 9/16	26.71	1.5625	16 3/8 5
*7/16	2.59	.4375	7 1/4 1	1 11/32	28.13	1.5937	16 7/8 5
*1 1/2	2.73	.4687	7 1/2 1	1 5/8	29.21	1.6250	17 5
1 1/2	3.05	.5000	8 1/4 2	1 11/16	30.27	1.6562	17 1/8 5
1 1/2	3.27	.5312	8 1/2 2	1 11/16	31.35	1.6875	17 1/8 5
9/16	3.62	.5625	8 3/4 2	1 13/16	32.41	1.7187	17 1/8 5
1 1/8	3.80	.5937	8 3/4 2	1 3/4	33.48	1.7500	17 1/8 5
5/8	3.99	.6250	8 3/4 2	1 25/32	34.55	1.7812	17 1/8 5
2 1/32	4.34	.6562	9 2	1 11/16	35.62	1.8125	17 1/8 5
1 1/4	4.70	.6875	9 1/2 2	1 27/32	36.68	1.8437	17 1/8 5
2 1/32	5.05	.7187	9 1/2 2	1 7/8	38.82	1.8750	17 3/8 5
3/4	5.41	.7500	9 3/4 2	1 29/32	40.07	1.9062	17 3/8 5
2 1/32	5.70	.7812	9 3/4 2	1 11/16	41.32	1.9375	17 3/8 5
2 1/32	6.41	.8125	10 3/4 3	1 13/16	42.56	1.9687	17 3/8 5
2 1/32	6.76	.8437	10 3/4 3	2	43.81	2.0000	17 3/8 5
7/8	7.12	.8750	10 3/4 3	2 1/32	45.05	2.0313	17 3/8 5
2 1/32	7.47	.9062	10 3/4 3	2 1/16	46.31	2.0625	17 3/8 5
1 1/2	7.83	.9375	10 3/4 3	2 1/8	48.80	2.1250	17 3/8 5
3 1/32	8.55	.9687	11 3	2 3/16	51.30	2.1875	17 3/8 5
1	9.08	1.0000	11 3	2 1/4	53.78	2.2500	17 3/8 5
1 1/32	9.61	1.0312	11 3/8 3	2 5/16	56.63	2.3125	17 3/8 5
1 1/16	10.14	1.0625	11 3/4 3	2 3/8	59.48	2.3750	17 3/8 5
1 1/32	11.21	1.0937	12 1/2 4	2 7/16	72.31	2.4375	18 3/4 5
1 1/8	11.93	1.1250	12 3/4 4	2 1/2	74.81	2.5000	18 3/4 5
1 5/32	12.64	1.1562	12 7/8 4	2 9/16	82.28	2.5625	19 1/2 5
1 3/16	13.35	1.1875	13 4	2 5/8	86.92	2.6250	19 1/2 5
1 7/32	14.06	1.2187	13 3/8 4	2 11/16	96.18	2.6875	20 3/8 5
1 1/4	15.49	1.2500	13 1/2 4	2 3/4	101.88	2.7500	20 3/8 5
1 9/32	16.91	1.2812	14 1/8 4	2 13/16	110.43	2.8125	21 1/8 5
1 5/16	17.63	1.3125	14 1/4 4	2 7/8	116.13	2.8750	21 1/8 5
1 11/32	18.34	1.3437	14 3/8 4	2 15/16	123.97	2.9375	21 3/4 5
1 3/8	19.05	1.3750	14 1/2 4	3	131.81	3.0000	21 3/4 5

*3 fluted only.

Standard Straight Shank Twist Drills

Long Series

No. 501 High Speed Steel No. 104B Carbon Steel



Diameter Inches	High Speed Each	Carbon Each	Decimal Equiv. Inches	Length Overall Inches
1/8	\$.69	\$.42	.1250	5 1/8
9/64	.76	.42	.1406	5 3/8
5/32	.76	.42	.1562	5 3/8
11/64	.86	.47	.1719	5 3/8
3/16	.86	.47	.1875	5 3/4
13/64	.93	.52	.2031	6
7/32	.93	.52	.2187	6
15/64	.96	.57	.2344	6 1/8
1/4	.96	.57	.2500	6 1/8
17/64	1.03	.61	.2656	6 1/4
9/32	1.03	.61	.2812	6 1/4
19/64	1.10	.66	.2969	6 3/8
5/16	1.10	.66	.3125	6 3/8
21/64	1.17	.71	.3281	6 1/2
11/32	1.17	.71	.3437	6 1/2
23/64	1.31	.76	.3594	6 3/4
3/8	1.31	.76	.3750	6 3/4
25/64	1.45	.85	.3906	7
13/32	1.45	.85	.4062	7
27/64	1.58	.95	.4219	7 1/4
7/16	1.58	.95	.4375	7 1/4
29/64	1.72	1.04	.4531	7 1/2
15/32	1.72	1.04	.4687	7 1/2
31/64	1.90	1.14	.4844	7 3/4
1/2	1.90	1.14	.5000	7 3/4
33/64	2.10	1.23	.5156	8
17/32	2.10	1.23	.5312	8
35/64	2.42	1.33	.5469	8 1/4
9/16	2.42	1.33	.5625	8 1/4
37/64	2.77	1.42	.5781	8 3/4
19/32	2.77	1.42	.5937	8 3/4
39/64	2.94	1.52	.6094	8 3/4
5/16	2.94	1.52	.6250	8 3/4
41/64	3.28	1.61	.6406	9
21/32	3.28	1.61	.6562	9
43/64	3.63	1.71	.6719	9 1/4
11/16	3.63	1.71	.6875	9 1/4
45/64	3.98	1.80	.7031	9 1/2
23/32	3.98	1.80	.7187	9 1/2
47/64	4.33	1.90	.7344	9 3/4
3/8	4.33	1.90	.7500	9 3/4
49/64	4.60	1.99	.7656	9 3/4
25/32	4.60	1.99	.7812	9 3/4
51/64	4.67	2.09	.7969	9 7/8
13/16	4.67	2.09	.8125	10
53/64	4.94	2.28	.8281	10
27/32	4.94	2.28	.8437	10
55/64	5.19	2.47	.8594	10
7/16	5.19	2.47	.8750	10
57/64	5.44	2.66	.8906	10
29/32	5.44	2.66	.9062	10
59/64	6.13	2.85	.9219	10 3/4
15/16	6.13	2.85	.9375	10 3/4
61/64	6.68	3.08	.9531	11
31/32	6.68	3.08	.9687	11
63/64	7.10	3.32	.9844	11
1	7.10	3.32	1.0000	11
1 1/64	7.62	.....	1.0156	11 1/8
1 1/32	7.62	.....	1.0312	11 1/8
1 1/16	8.14	.....	1.0469	11 1/4
1 1/8	8.14	3.80	1.0625	11 1/4
1 1/4	8.45	.....	1.0781	11 1/2
1 1/2	8.45	.....	1.0937	11 1/2
1 3/4	9.11	.....	1.1094	11 3/4
1 7/8	9.11	4.27	1.1250	11 3/4
1 5/8	9.60	.....	1.1406	11 3/4
1 1/2	9.60	.....	1.1562	11 3/8
1 1/4	10.08	.....	1.1719	12
1 1/8	10.08	4.75	1.1875	12
1 1/2	10.57	.....	1.2031	12 1/8
1 3/8	10.57	.....	1.2187	12 1/8
1 1/4	11.54	.....	1.2344	12 1/2
1 1/2	11.54	5.22	1.2500	12 1/2
1 3/4	13.87	.....	1.2812	14 1/8
1 5/8	14.38	5.70	1.3125	14 1/8
1 7/8	14.90	.....	1.3437	14 1/2
1 5/4	15.42	6.17	1.3750	14 1/2
1 1/2	15.95	.....	1.4062	14 3/4
1 1/4	16.46	7.12	1.4375	14 3/4
1 1/8	16.98	.....	1.4687	14 3/4
1 1/2	17.50	8.07	1.5000	15
1 3/4	19.55	.....	1.5625	15 1/4
1 5/8	21.66	.....	1.6250	15 1/4
1 7/8	23.26	.....	1.6875	15 3/4
1 5/4	25.65	.....	1.7500	16 1/4
1 1/2	27.32	.....	1.8125	16 1/4
1 1/4	29.64	.....	1.8750	16 3/4
1 1/8	31.51	.....	1.9375	16 3/4
2	33.18	.....	2.0000	16 3/4

Standard Straight Shank Twist Drills

Jobbers' or Short Lengths

No. 504 High Speed Steel

No. 105 Carbon Steel



Diameter Inches	High Speed Each	Carbon Each	Decimal Equiv. Inches	Length Overall Inches
1/64	\$.30	\$.16	.0156	3/4
1/32	.24	.16	.0312	1 3/8
3/64	.17	.11	.0469	1 3/8
1/16	.17	.11	.0625	1 7/8
5/64	.18	.11	.0781	2
3/32	.19	.12	.0937	2 1/4
7/64	.22	.12	.1094	2 5/8
1/8	.25	.13	.1250	2 3/4
9/64	.27	.13	.1406	2 7/8
5/32	.29	.13	.1562	3 1/8
11/64	.32	.14	.1719	3 1/4
3/16	.35	.16	.1875	3 1/2
13/64	.38	.18	.2031	3 3/8
7/32	.42	.19	.2187	3 3/4
15/64	.44	.20	.2344	3 7/8
1/4	.48	.21	.2500	4
17/64	.54	.23	.2656	4 1/8
9/32	.59	.25	.2812	4 1/4
19/64	.65	.27	.2969	4 3/8
5/16	.70	.29	.3125	4 1/2
21/64	.77	.32	.3281	4 3/4
11/32	.85	.35	.3437	4 3/4
23/64	.92	.38	.3594	4 7/8
3/8	.99	.41	.3750	5
25/64	1.09	.44	.3906	5 1/8
13/32	1.17	.48	.4062	5 1/4
27/64	1.27	.53	.4219	5 3/8
7/16	1.35	.58	.4375	5 1/2
29/64	1.45	.63	.4531	5 5/8
15/32	1.54	.69	.4687	5 3/4
31/64	1.65	.76	.4844	5 7/8
1/2	1.75	.83	.5000	6

Standard Straight Shank Twist Drills

Letter Sizes

No. 505 High Speed Steel

No. 106 Carbon Steel



Size	High Speed Each	Carbon Each	Decimal Equiv. Inches	Length Overall Inches
A	\$.44	\$.20	.234	3 7/8
B	.47	.20	.238	4
C	.47	.20	.242	4
D	.48	.21	.246	4
E	.48	.21	.250	4
F	.54	.22	.257	4 1/8
G	.54	.23	.261	4 1/8
H	.57	.23	.266	4 1/8
I	.57	.24	.272	4 1/8
J	.57	.25	.277	4 1/8
K	.59	.25	.281	4 1/4
L	.63	.26	.290	4 1/4
M	.65	.27	.295	4 3/8
N	.68	.29	.302	4 3/8
O	.76	.30	.316	4 1/2
P	.77	.31	.323	4 5/8
Q	.85	.32	.332	4 3/4
R	.85	.35	.339	4 3/4
S	.92	.35	.348	4 7/8
T	.92	.38	.358	4 7/8
U	.99	.41	.368	5
V	1.06	.41	.377	5
W	1.09	.44	.386	5 1/8
X	1.14	.46	.397	5 1/8
Y	1.14	.48	.404	5 1/4
Z	1.24	.50	.413	5 1/4

Sizes A to K, put up, 12 of a size, in envelopes.
 Sizes L to Z, put up, 6 of a size, in envelopes.

Standard Straight Shank Wire Gage
Twist Drills

No. 506 High Speed Steel

No. 107 Carbon Steel

No. by Gage	High Speed Each	Carbon Each	Decimal Equiv. Inches	Length Overall Inches
1	\$.44	\$.19	.2280	3 7/8
2	.44	.19	.2210	3 7/8
3	.42	.19	.2130	3 3/4
4	.42	.19	.2090	3 3/4
5	.42	.19	.2055	3 3/4
6	.42	.18	.2040	3 3/4
7	.38	.18	.2010	3 5/8
8	.38	.18	.1990	3 5/8
9	.38	.18	.1960	3 5/8
10	.38	.18	.1935	3 5/8
11	.38	.16	.1910	3 1/2
12	.38	.16	.1890	3 1/2
13	.35	.16	.1850	3 1/2
14	.35	.16	.1820	3 3/8
15	.35	.16	.1800	3 3/8
16	.33	.14	.1770	3 3/8
17	.33	.14	.1730	3 3/8
18	.32	.14	.1695	3 1/4
19	.31	.14	.1660	3 1/4
20	.31	.14	.1610	3 1/4
21	.31	.13	.1590	3 1/4
22	.29	.13	.1570	3 1/8
23	.29	.13	.1540	3 1/8
24	.29	.13	.1520	3 1/8
25	.27	.13	.1495	3
26	.27	.13	.1470	3
27	.27	.13	.1440	3
28	.27	.13	.1405	2 7/8
29	.25	.13	.1360	2 7/8
30	.25	.13	.1285	2 3/4
31	.23	.12	.1200	2 3/4
32	.23	.12	.1160	2 3/4
33	.23	.12	.1130	2 5/8
34	.22	.12	.1110	2 5/8
35	.22	.12	.1100	2 5/8
36	.21	.12	.1065	2 1/2
37	.20	.12	.1040	2 1/2
38	.20	.12	.1015	2 1/2
39	.20	.12	.0995	2 3/8
40	.19	.12	.0980	2 3/8
41	.19	.12	.0960	2 3/8
42	.19	.12	.0935	2 1/4
43	.18	.12	.0890	2 1/4
44	.18	.12	.0860	2 1/8
45	.18	.12	.0820	2 1/8
46	.18	.11	.0810	2 1/8
47	.18	.11	.0785	2
48	.18	.11	.0760	2
49	.18	.11	.0730	2
50	.17	.11	.0700	2
51	.17	.11	.0670	2
52	.17	.11	.0635	1 7/8
53	.17	.11	.0595	1 7/8
54	.17	.11	.0550	1 7/8
55	.17	.11	.0520	1 7/8
56	.17	.11	.0465	1 3/4
57	.17	.11	.0430	1 3/4
58	.17	.11	.0420	1 5/8
59	.17	.11	.0410	1 5/8
60	.17	.11	.0400	1 5/8
61	.24	.16	.0390	1 5/8
62	.24	.16	.0380	1 1/2
63	.24	.16	.0370	1 1/2
64	.24	.16	.0360	1 1/2
65	.24	.16	.0350	1 1/2
66	.24	.16	.0330	1 5/8
67	.24	.16	.0320	1 5/8
68	.24	.16	.0310	1 5/8
69	.24	.16	.0292	1 5/8
70	.24	.16	.0280	1 1/4
71	.30	.16	.0260	1 1/4
72	.30	.16	.0250	1 1/8
73	.30	.16	.0240	1 1/8
74	.30	.16	.0225	1 1/8
75	.30	.16	.0210	1
76	.30	.16	.0200	3/8
77	.30	.16	.0180	3/8
78	.30	.16	.0160	3/8
79	.30	.16	.0145	3/4
80	.30	.16	.0135	3/4

No. 506L Standard Straight Shank Left
Hand Twist Drills

High Speed Steel
Wire Gage Sizes

No.	Each	Decimal Equivalent	Flute Length Inches	Overall Length Inches	No.	Each	Decimal Equivalent	Flute Length Inches	Overall Length Inches
1	\$.61	.2280	2 5/8	3 7/8	31	\$.32	.1200	1 5/8	2 3/4
2	.61	.2210	2 5/8	3 7/8	32	.32	.1160	1 5/8	2 3/4
3	.58	.2130	2 1/2	3 3/4	33	.32	.1130	1 1/2	2 5/8
4	.58	.2090	2 1/2	3 3/4	34	.31	.1110	1 1/2	2 5/8
5	.58	.2055	2 1/2	3 3/4	35	.31	.1100	1 1/2	2 5/8
6	.58	.2040	2 1/2	3 3/4	36	.30	.1065	1 7/16	2 1/2
7	.54	.2010	2 1/16	3 5/8	37	.28	.1040	1 7/16	2 1/2
8	.54	.1990	2 1/16	3 5/8	38	.28	.1015	1 7/16	2 1/2
9	.54	.1960	2 1/16	3 5/8	39	.28	.0995	1 3/8	2 3/8
10	.52	.1935	2 1/16	3 5/8	40	.27	.0980	1 3/8	2 3/8
11	.52	.1910	2 3/16	3 1/2	41	.27	.0960	1 3/8	2 3/8
12	.52	.1890	2 3/16	3 1/2	42	.26	.0935	1 1/4	2 1/4
13	.47	.1850	2 1/16	3 1/2	43	.25	.0890	1 1/4	2 1/4
14	.47	.1820	2 3/16	3 3/8	44	.25	.0860	1 1/8	2 1/8
15	.47	.1800	2 3/16	3 3/8	45	.25	.0820	1 1/8	2 1/8
16	.45	.1770	2 1/16	3 3/8	46	.24	.0810	1 1/8	2 1/8
17	.45	.1730	2 3/16	3 3/8	47	.24	.0785	1	2
18	.44	.1695	2 1/8	3 1/4	48	.24	.0760	1	2
19	.42	.1660	2 1/8	3 1/4	49	.24	.0730	1	2
20	.42	.1610	2 1/8	3 1/4	50	.23	.0700	1	2
21	.42	.1590	2 1/8	3 1/4	51	.23	.0670	1	2
22	.40	.1570	2	3 1/8	52	.23	.0635	7/8	1 7/8
23	.40	.1540	2	3 1/8	53	.23	.0595	7/8	1 7/8
24	.39	.1520	2	3 1/8	54	.23	.0550	7/8	1 7/8
25	.38	.1495	1 7/8	3	55	.23	.0520	7/8	1 7/8
26	.38	.1470	1 7/8	3	56	.23	.0465	3/4	1 3/4
27	.38	.1440	1 7/8	3	57	.23	.0430	3/4	1 3/4
28	.38	.1405	1 3/4	2 7/8	58	.23	.0420	1 1/16	1 5/8
29	.35	.1360	1 3/4	2 7/8	59	.23	.0410	1 1/16	1 5/8
30	.35	.1285	1 5/8	2 3/4	60	.23	.0400	1 1/16	1 5/8

Standard Straight Shank Twist Drills
High Speed Steel

No. 513—3-Fluted

No. 514—4-Fluted



No. 513

For enlarging and truing cored, punched or previously drilled holes. Will not drill into solid metal.

Diam. In.	Each	Dec. Equiv. In.	Lgth. Over- all In.	Diam. In.	Each	Dec. Equiv. In.	Lgth. Over- all In.
*1/4	\$1.95	.2500	6 1/8	1 1/32	\$9.61	1.0313	11 1/8
*9/32	2.02	.2812	6 1/4	1 1/16	10.14	1.0625	11 1/4
*5/16	2.09	.3125	6 3/8	1 3/32	10.32	1.0937	11 1/2
*11/32	2.16	.3437	6 1/2	1 1/8	11.00	1.1250	11 3/4
*3/8	2.30	.3750	6 3/4	1 5/32	11.68	1.1562	11 7/8
*13/32	2.45	.4062	7	1 3/16	12.32	1.1875	12
*7/16	2.59	.4375	7 1/4	1 7/32	12.99	1.2187	12 1/8
*15/32	2.73	.4687	7 1/2	1 1/4	14.35	1.2500	12 1/2
1/2	2.87	.5000	7 3/4	1 9/32	16.91	1.2812	14 1/8
17/32	3.09	.5313	8	1 5/16	17.63	1.3125	14 1/4
9/16	3.42	.5625	8 1/4	1 11/32	18.34	1.3437	14 3/8
19/32	3.80	.5937	8 3/4	1 3/8	19.05	1.3750	14 1/2
5/8	3.99	.6250	8 3/4	1 13/32	19.95	1.4062	14 3/8
21/32	4.34	.6562	9	1 7/16	20.83	1.4375	14 3/4
11/16	4.70	.6875	9 1/4	1 15/32	21.72	1.4687	14 7/8
23/32	5.05	.7187	9 1/2	1 1/2	22.61	1.5000	15
3/4	5.41	.7500	9 3/4	1 9/16	24.51	1.5625	15 1/4
25/32	5.70	.7812	9 7/8	1 5/8	26.85	1.6250	15 5/8
13/16	5.94	.8125	10	1 11/16	28.81	1.6875	15 3/4
27/32	6.29	.8437	10	1 3/4	31.77	1.7500	16 1/4
7/8	6.62	.8750	10	1 13/16	33.80	1.8125	16 1/2
29/32	6.94	.9062	10	1 7/8	36.86	1.8750	16 3/2
15/16	7.83	.9375	10 3/4	1 15/16	39.53	1.9375	16 3/4
31/32	8.55	.9687	11	2	41.92	2.0000	16 3/8
1	9.08	1.0000	11				

All sizes and dimensions not listed are special and subject to special prices.

*Furnished 3 flutes only.

No. 524 Standard Center Drills High Speed Steel



Fractional Sizes

Diameter Inches	Each	Length Overall In.	Diameter Inches	Each	Length Overall Inches
1/16	\$.16	1 1/4	13/64	\$.26	1 1/2
5/64	.16	1 1/4	7/32	.29	1 1/2
3/32	.17	1 1/4	15/64	.31	1 1/2
7/64	.17	1 1/4	1/4	.33	1 1/2
1/8	.18	1 1/4	17/64	.37	1 1/2
9/64	.19	1 1/4	9/32	.39	1 1/2
5/32	.21	1 1/2	19/64	.43	1 1/2
11/64	.23	1 1/2	5/16	.47	1 1/2
3/16	.24	1 1/2	....	....	....
Wire Gage Sizes					
30	\$.18	1 1/4	50	\$.14	1 1/4
40	.15	1 1/4	....	....	....

Standard 2-Step Drills High Speed Steel



Designed for drilling small and large diameter holes in one operation. The flutes and margins however, are the same for each diameter, not separate as in a multicut drill. Prices upon application.

Standard Combined Drills and Countersinks No. 779 High Speed Steel No. 107D Carbon Steel



Angle of countersink, 60°.

Size	High Speed Each	Carbon Each	Diameter Drill, In.	Diameter Body, In.
A-1	\$.79	\$.32	3/64	1/8
C-2	.79	.38	1/16	13/64
D-1	.79	.41	5/64	15/64
E-1	.79	.45	3/32	3/10
E-2	.79	.45	1/8	3/10
F-1	1.19	.57	5/32	7/16
F-2	1.19	.57	3/16	7/16
J-1	1.79	.75	1/2	1 1/2
J-2	1.79	.75	9/32	1 1/2
M-1	2.39	1.16	7/32	5/8
M-2	2.39	1.16	9/32	5/8
N-1	3.19	....	1/4	3/4
N-2	3.19	....	5/16	3/4

Standard Combined Drill and Countersink Sets

No. 25B, High Speed Steel

No. 20B, Carbon Steel



Set contains one each Nos. A1, C2, D1, E1, E2, F1, and F2.

Angle of countersink, 60 degrees.

Packed 1 in a box with a wood block.

Drill and Ctrsk. No.	Size Drill In.	Body Diam. In.
A1	3/64	1/8
C2	1/16	13/64
D1	5/64	15/64
E1	3/32	3/10
E2	1/8	3/10
F1	5/32	7/16
F2	3/16	7/16

No. 25B, High Speed, Including Box.....per set **\$7.00**
No. 20B, Carbon, Including Box.....per set **3.83**

Standard Blacksmiths' Twist Drills

1/2-Inch Shanks—Short Lengths
No. 517 High Speed Steel No. 112 Carbon Steel



Flattened Shank

No. 517R High Speed Steel No. 112R Carbon Steel



Round Shank

Diam. Inches	High Speed Each	Carbon Each	Length Overall Inches	Diam. Inches	High Speed Each	Carbon Each	Length Overall Inches
1/8	\$0.96	\$.37	4 7/8	21/32	\$3.28	\$1.16	6
5/32	1.03	.37	5 1/8	11/16	3.46	1.25	6
3/16	1.10	.41	5 1/2	23/32	3.63	1.33	6
7/32	1.20	.45	5 3/4	3/4	3.80	1.41	6
1/4	1.31	.49	6	25/32	3.98	1.50	6
9/32	1.41	.54	6	13/16	4.16	1.58	6
5/16	1.52	.57	6	27/32	4.33	1.67	6
11/32	1.62	.62	6	7/8	4.50	1.74	6
3/8	1.72	.66	6	29/32	4.67	1.83	6
13/32	1.90	.70	6	15/16	5.02	1.91	6
7/16	2.08	.75	6	31/32	5.36	2.00	6
15/32	2.25	.78	6	1	5.89	2.09	6
1/2	2.42	.83	6	11/32	6.41	2.16	6
9/32	2.59	.87	6	11/16	6.93	2.25	6
5/16	2.77	.91	6	1/8	7.79	2.42	6
19/32	2.94	.99	6	13/16	8.66	2.58	6
5/8	3.11	1.08	6	1/4	9.52	2.75	6

High speed drills with 1/2-inch shanks in size over 3/4-inch furnished at customer's risk only; 1/2-inch shanks are not considered strong enough for larger sizes.

Unless otherwise specified carbon steel drill with shanks flattened and high speed drills with round shanks are furnished.

No. 109A Standard Wood Boring Brace Bits Carbon Steel



Size of shank, 3/16x3/8x1 1/4 inches long.

Specially tempered and pointed for wood, but is not injured by contact with nails, plaster, etc.

Diam. In.	Each	Lgth. Over- all In.	Diam. In.	Each	Lgth. Over- all In.
1/16	\$.32	3 1/2	13/32	\$.74	8 1/4
3/32	.32	4	7/16	.79	8 1/2
1/8	.32	4 1/2	15/32	.86	8 3/4
5/32	.34	5	1/2	.94	9
3/16	.39	5 1/2	9/16	1.09	9 1/2
7/32	.44	6	5/8	1.24	9 1/2
1/4	.49	6 1/2	11/16	1.44	10
9/32	.54	7	3/4	1.64	10
5/16	.59	7 1/4	7/8	2.09	10
11/32	.64	7 3/4	1	2.68	10
3/8	.69	8	....	....	....

No. 109B Standard Wood Boring Brace Drills

Extra Length
For Bell Hangers and Electricians
Carbon Steel



Size of forged shank, 3/16x3/8x1 1/4 inches long.

Diameter Inches	EACH LENGTH, INCHES			Diameter Inches	EACH LENGTH, INCHES		
	12	18	24		12	18	24
3/16	\$.77	\$1.04	\$1.30	1/2	\$1.25	\$1.51	\$1.77
1/4	.83	1.09	1.35	9/16	1.40	1.67	1.92
5/16	.91	1.14	1.40	5/8	1.58	1.85	2.10
3/8	.98	1.25	1.51	3/4	1.98	2.24	2.50
7/16	1.09	1.35	1.61	....	....	....	....

Sizes 3/16 to 3/4 inch put up 1/2 dozen of a size in a box.

Standard Wire Gage, Jobbers' and Letter Size Drills

High Speed Steel

Carbon Steel



Compact, sturdy and durable folding container can conveniently be carried in tool boxes, kits, etc. Die cast holes in hinged panels, marked with drill sizes for quick identification hold the drills. The panels open and close like the pages of a book.

Drill Size Range, Inches	High Speed		Carbon		Container Only Each
	No.	Per Set	No.	Per Set	
1/16 to 1/4 by 64ths	4 1/2	\$3.96	4	\$1.93	\$.79
1/16 to 1/2 by 64ths	5 1/2	21.24	5	9.37	2.39
1/16 to 1/2 by 32nds	8 1/2	15.89	6	4.93	...
1 to 60 Inclusive	80	5.40	8	8.10	1.99
61 to 80 Inclusive	15 1/2	19.41	61	3.20	.59
A to Z Inclusive			15	7.97	2.19

No. 18 Standard Breast Drill Sets

High Speed Steel

Carbon Steel



Straight Shank Drills

Set consists of 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 11/64, and 3/16-inch size drills.

No. 18A, High Speed Steel.....per set **\$2.59**

No. 18, Carbon Steel.....per set **1.39**

General Automatic Self-Positioning Drill Cases

Drill Cases



A compact case which makes drills instantly accessible—when the cover is lifted, drills automatically come into position. When the cover is closed, drills are automatically lowered into case.

Eye-level index plates permit easy reading and instant locating of drills.

Fits any tool chest.

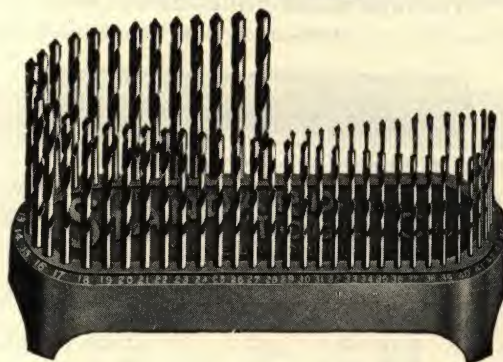
Individually boxed.

Prices do not include drills.

No. 43 Drill Case

No.	40	41	43	45
Each.....				
For Drills....	Nos. 61—80	Nos. 1—60	1/16—1/2 in.	A—Z
Weight..pounds	1	1 3/4	4 1/4	4 1/4

Standard Wire Gage and Jobbers' Twist Drill Sets



No. 5 1/2 B High Speed Steel

Set consists of jobbers' straight shank drills 1/16 to 1/2 inch inclusive, by 64ths, with metal block.

No. 5 1/2 B.....each **\$24.16**

No. 8 1/2 B High Speed Steel

Set consists of wire gage drills Nos. 1 to 60 inclusive with metal block.

No. 8 1/2 B.....each **\$18.81**

No. 5B Carbon Steel

Set consists of jobbers' straight shank drills 1/16 to 1/2 inch inclusive, by 64ths, mounted on metal blocks.

No. 5B.....each **\$12.29**

No. 8B Carbon Steel

Set consists of wire gage drills Nos. 1 to 60 inclusive mounted on metal block.

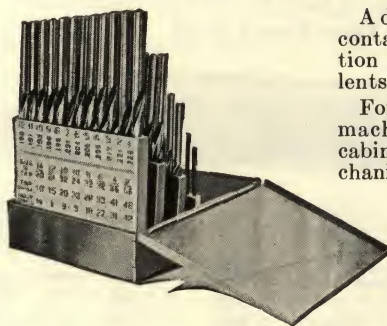
No. 8B.....each **\$11.02**

Metal Blocks

For use with Nos. 5 1/2 B, 8 1/2 B, 5B and 8B sets.

Each..... **\$2.92**

Huot Drill Indexes



A drill stand and indexed container with tap information and decimal equivalents. Made of steel.

For tool and die makers, machinists, electricians, cabinet makers, garage mechanics, manual training schools, vocational schools, aviators and anyone who uses small drills.

Prices do not include drills.

No. 13. For jobbers' or fractional drills 1/16 in. to 1/4 in. inclusive by 64ths. Size, 2 1/16 x 4 5/8 x 3/8 inches.....	each	\$1.20
No. 15. For jobbers' or fractional drills 1/16 to 1/2 in. by 32nds decimal equivalents. Size, 4 x 7 x 1 1/4 in.....	each	2.70
No. 21. For jobbers' or fractional drills 1/16 to 3/8 in. by 64ths. Decimal equivalents. Size, 4 x 6 x 1 1/8 in.....	each	2.80
No. 29. For jobbers' or fractional drills 1/16 to 1/2 inch inclusive by 64ths. Decimal equivalents, U.S.S. and S.A.E. tap information. Size, 4 x 7 x 1 3/4 inches.....	each	3.40
No. 16-B. For Morse taper shank drills 49/64 to 1 inch by 64ths. Size, 6 1/4 x 1 1/4 x 3 3/8 inches.....	each	7.50
No. 16-A. For Morse taper shank drills 33/64 to 3/4 inch by 64ths. Size, 5 1/2 x 1 1/2 x 2 3/4 inches.....	each	7.00
No. 60. For wire gage drills Nos. 1 to 60 inclusive, decimal equivalents, machine screw tap information. Size, 3 1/4 x 4 1/2 x 1 inches.....	each	3.00
No. 72. For wire gage drills Nos. 1 to 60; also 12 taps 2-56 to 14-20. Size, 3 1/4 x 4 1/2 x 1 1/8 inches.....	each	3.60
No. 20. For wire gage drills Nos. 61 to 80. Size, 1 1/2 x 2 x 3/4 inches.....	each	1.00
No. 26. For letter drills A to Z. Size, 4 x 7 x 1 3/4 in.....	each	3.40
No. 80. For wire gage drills No. 1 to 80 incl. dec. equiv. mach. screw tap info. Size 4 1/4 x 4 1/2 x 1 1/8 in.....	each	3.60

No. 116 Standard Steel Sockets For Taper Shank Drills—Carbon Steel Unfinished Shanks



Shanks left rough to be fitted to the machine.

No.	Each	Holds Drill with Shank No.	Length Overall Inches	Diameter Shank Inches
1	\$.95	1	6 1/4	1 3/16
2	1.43	2	7 1/2	1 1/8
3	1.99	3	9 1/4	1 3/8
4	3.19	4	11 7/8	1 13/16
5	5.98	5	15	2 1/2
6	15.69	6	18	3

No. 117 Standard Steel Sockets For Taper Shank Drills Finished Shanks



Size No.	Each	Hole No.	Shank No.	Size No.	Each	Hole No.	Shank No.
1 to 2	\$1.59	1	2	3 to 4	\$2.54	3	4
1 to 3	1.99	1	3	3 to 5	3.82	3	5
1 to 4	2.54	1	4	4 to 3	3.82	4	3
1 to 5	3.82	1	5	4 to 4	3.82	4	4
2 to 2	1.99	2	2	4 to 5	3.82	4	5
2 to 3	1.99	2	3	4 to 6	13.45	4	6
2 to 4	2.54	2	4	5 to 4	9.57	5	4
2 to 5	3.82	2	5	5 to 5	9.57	5	5
3 to 2	2.54	3	2	5 to 6	13.45	5	6
3 to 3	2.54	3	3	.....	.....	..	..

No. 118 Standard Steel Sleeves For Taper Shank Drills



Size No.	Each	Hole No.	Outside Fit. Socket No.	Size No.	Each	Hole No.	Outside Fit. Socket No.
1 to 2	\$.71	1	2	2 to 5	\$3.08	2	5
1 to 3	.95	1	3	3 to 4	1.19	3	4
1 to 4	1.19	1	4	3 to 5	3.08	3	5
1 to 5	3.08	1	5	4 to 5	3.08	4	5
2 to 3	.95	2	3	4 to 6	11.21	4	6
2 to 4	1.19	2	4	5 to 6	11.21	5	6

Armstrong Automatic Drill Drifts



Armstrong Safety Drift combines hammer and drift, thus leaving one hand free to support tool to be removed. The heavy handle or driver is slidably mounted upon the blade, which is automatically kept extended, when not in operation, by a low tension coil spring.

In operating, the point of blade is inserted in slot of drill socket and handle driven forcibly up blade, until it strikes the butt end of drift—it will strike a blow sufficiently heavy to remove the most stubborn drill.

No.	1-A	2-A	3-A	4-A
Capacity, Morse Taper No.	1, 2, 3	2, 3, 4	3, 4, 5	4, 5, 6
Each	\$7.54	9.45	13.21	16.98
Extra Blades.....each	2.82	3.76	5.26	6.75

Genuine Critchley-Six 6-Blade Expanding Reamers

With Angle Blades



Blades are of semi-high speed steel, beveled on each end, and confined to their place by special nuts. To increase diameter of reamers it is only necessary to slack up on one nut and screw up on the other. Blades may be ordered as they are broken, 1 to 6. They fit any slot in their number.

No.	Each	Extra Reamers Each	Extra Nuts Each	Extra Blades Each	Expansion Inches	No.	Each	Extra Reamers Each	Extra Nuts Each	Extra Blades Each	Expansion Inches
19	\$4.50	.30	.30	.30	27/64—29/64	AA	\$4.50	.30	.30	.30	27/64—15/32
20	4.50	.30	.30	.30	7/16—1/2	A	4.50	.30	.30	.30	15/32—17/32
21	4.50	.30	.30	.30	1/2—9/16	B	4.50	.30	.30	.30	17/32—19/32
22	4.50	.30	.30	.30	9/16—5/8	C	4.75	.30	.30	.30	19/32—21/32
23	4.75	.30	.30	.30	5/8—11/16	D	4.75	.30	.30	.30	21/32—23/32
24	4.75	.30	.30	.30	11/16—3/4	E	5.00	.35	.35	.35	23/32—25/32
25	5.00	.35	.35	.35	3/4—13/16	F	5.00	.35	.35	.35	25/32—27/32
26	5.00	.35	.35	.35	13/16—7/8	G	5.50	.40	.40	.40	27/32—15/16
27	5.50	.40	.40	.40	7/8—1	H	5.80	.40	.40	.40	15/16—1
28	5.80	.40	.40	.40	1—1 1/8	I	7.00	.45	.45	.45	1—1 1/8
29	7.00	.45	.45	.45	1 1/8—1 1/4	J	8.00	.45	.45	.45	1 1/8—1 1/4
30	8.00	.45	.45	.45	1 1/4—1 1/2	K	10.00	.55	.55	.55	1 1/4—1 1/2
31	10.00	.50	.55	.55	1 1/2—1 5/8	L	11.50	.55	.55	.55	1 1/2—1 5/8
32	11.50	.60	.65	.65	1 5/8—2	M	15.00	.65	.70	.70	1 5/8—2
33	15.00	.65	.70	.70	2—2 1/8	N	18.00	.75	.80	.80	2—2 1/8
34	18.00	.75	.80	.80	2 1/8—2 1/4	O	22.00	1.00	1.00	1.00	2 1/8—2 1/4
35	22.00	1.00	1.00	1.00	2 1/4—3	P	26.00	1.20	1.20	1.20	2 1/4—3
36	26.00	1.20	1.20	1.20	3—3 1/2	Q	30.00	1.35	1.35	1.35	3 1/2—4 1/16
37	30.00	1.35	1.35	1.35	3 1/2—4 1/16	..	.....	.....	.....	.....	.....

NOTE—No. 34 and larger furnished in straight blades.

C. & T. Hinge Pin or Radio Reamers Straight Blade

Size No.	104	105	106	107	108	109	110
Each	\$3.00	\$3.00	\$3.50	\$3.50	\$3.50	\$4.00	\$4.00
Ex. Blades...ea.	.25	.25	.25	.25	.25	.30	.30
Ex. Nuts...ea.	.25	.25	.25	.25	.25	.30	.30
Min. Size...in.	1/4	5/32	5/16	11/32	3/8	13/32	7/16
Max. Size...in.	9/32	5/16	11/32	3/8	13/32	7/16	15/32
Set, Not Including Case	.....	.....	.....	.....	.....	.....	.....
Case Only	.....	.....	.....	.....	.....	.....	1.00

Standard Countersinks 1/2-Inch Round Shank

No. 635, High Speed Steel

No. 135-A, Carbon Steel



Included angle of point for screws, 82°; for tire bolts, 60°. Specify angle.

Diameter.....inches	1/2	5/8	3/4	7/8	1
No. 635, High Speed.....each	\$2.34	2.67	3.28	3.65	4.18
No. 135A, Carbon.....each	\$1.16	1.48	1.71	2.03	2.34

No. 118A Standard Drifts or Center Keys



Size No.	118A-1	118A-2	118A-3	118A-4
Each	\$.46	.54	.62	.77
Fitting Sockets and Sleeve No.	1	2	3	4, 5 & 6

WE Solicit YOUR INQUIRIES
for special drills, taps, reamers,
dies, and cutters.

Genuine Critchley Expansion Reamer Sets



No. 7620, Seven 6-Blade Reamers, Nos. 20 to 26,
Expanding $\frac{1}{16}$ to $\frac{7}{8}$ Inch, Inc. per set **\$33.00**

No. 10620, Ten 6-Blade Reamers, Nos. 20 to 29,
Expanding $\frac{1}{16}$ to $1\frac{1}{4}$ Inches, Inc. per set **51.30**

No. 10619, Ten 6-Blade Reamers, Nos. 19 to 28,
Expanding $\frac{7}{64}$ to $1\frac{1}{8}$ Inches, Inc. per set **48.80**

No. 146, Fourteen 6-Blade Reamers, Nos. 20 to 33,
Expanding $\frac{1}{16}$ to $2\frac{3}{16}$ Inches, Inc. per set **95.80**

No. 86A, Eight 6-Blade Reamers, Letters A to H,
Expanding $\frac{15}{32}$ to $1\frac{1}{16}$ Inches, Inc. per set **39.80**

No. 106A, Ten 6-Blade Reamers, Letters A to J,
Expanding $\frac{15}{32}$ to $1\frac{1}{32}$ Inches, Inc. per set **54.80**

No. 116A, Eleven 6-Blade Reamers, Letters A to K,
Expanding $\frac{15}{32}$ to $1\frac{1}{32}$ Inches, Inc. per set **64.80**

No. 128D Standard Expansion Hand Reamers

Carbon Steel—Straight Flute



Diameter Inches	Each	Maximum Expansion Inches	Diameter Inches	Each	Maximum Expansion Inches
$\frac{1}{4}$	\$4.38	.006	$\frac{25}{32}$	\$7.67	.010
$\frac{9}{32}$	4.53	.006	$\frac{13}{16}$	7.67	.010
$\frac{5}{16}$	4.53	.006	$\frac{27}{32}$	8.40	.010
$\frac{11}{32}$	4.67	.006	$\frac{7}{8}$	8.40	.010
$\frac{3}{8}$	4.67	.006	$\frac{29}{32}$	9.13	.010
$\frac{13}{32}$	4.82	.006	$\frac{15}{16}$	9.13	.010
$\frac{7}{16}$	4.82	.006	$\frac{31}{32}$	9.87	.010
$\frac{15}{32}$	4.96	.006	1	9.87	.012
$\frac{1}{2}$	4.96	.010	$\frac{11}{16}$	10.60	.012
$\frac{17}{32}$	5.33	.010	$\frac{11}{8}$	11.33	.012
$\frac{9}{16}$	5.33	.010	$\frac{13}{16}$	12.14	.012
$\frac{19}{32}$	5.85	.010	$\frac{11}{4}$	13.01	.012
$\frac{5}{8}$	5.85	.010	$\frac{15}{16}$	13.89	.012
$\frac{21}{32}$	6.43	.010	$\frac{13}{8}$	15.36	.012
$\frac{11}{16}$	6.43	.010	$\frac{17}{16}$	16.82	.012
$\frac{23}{32}$	7.02	.010	$\frac{11}{2}$	18.28	.012
$\frac{3}{4}$	7.02	.010	.....	.....	.....

All sizes and dimensions not listed are special and subject to special prices.

No. 602 **high speed** steel reamer prices on application.

Reamers for brass and bronze and other non-ferrous metals require special clearance and can be furnished on request.

Standard Straight Fluted Hand Reamers

No. 600 **High Speed Steel**

No. 122 Carbon Steel



Diam. Inches	High Speed Each	Carbon Each	Length Overall Inches	Lgth. Flute In.	Diam. Inches	High Speed Each	Carbon Each	Length Overall Inches	Lgth. Flute In.
$\frac{1}{8}$	\$2.50	\$1.31	3	$1\frac{1}{2}$	$\frac{17}{32}$	\$4.80	\$2.62	$6\frac{1}{4}$	$3\frac{1}{8}$
$\frac{9}{64}$	....	1.56	$3\frac{1}{4}$	$1\frac{5}{8}$	$\frac{9}{16}$	4.80	2.62	$6\frac{1}{2}$	$3\frac{1}{4}$
$\frac{5}{32}$	2.71	1.56	$3\frac{1}{4}$	$1\frac{5}{8}$	$\frac{19}{32}$	5.22	2.87	$6\frac{3}{4}$	$3\frac{3}{8}$
$\frac{11}{64}$	....	1.56	$3\frac{1}{2}$	$1\frac{3}{4}$	$\frac{5}{8}$	5.22	2.87	7	$3\frac{1}{2}$
$\frac{3}{16}$	2.71	1.56	$3\frac{1}{2}$	$1\frac{3}{4}$	$\frac{21}{32}$	5.64	3.14	$7\frac{3}{8}$	$3\frac{11}{16}$
$\frac{13}{64}$	....	1.83	$3\frac{3}{4}$	$1\frac{7}{8}$	$\frac{11}{16}$	5.64	3.14	$7\frac{3}{4}$	$3\frac{5}{8}$
$\frac{7}{32}$	2.92	1.83	$3\frac{3}{4}$	$1\frac{7}{8}$	$\frac{23}{32}$	6.06	3.40	$8\frac{1}{8}$	$4\frac{1}{16}$
$\frac{15}{64}$	....	1.83	4	2	$\frac{3}{4}$	6.06	3.40	$8\frac{3}{8}$	$4\frac{3}{16}$
$\frac{1}{4}$	2.92	1.83	4	2	$\frac{25}{32}$	6.47	3.66	$8\frac{3}{4}$	$4\frac{3}{8}$
$\frac{17}{64}$	....	1.96	$4\frac{1}{4}$	$2\frac{1}{8}$	$\frac{13}{16}$	6.47	3.66	$9\frac{1}{8}$	$4\frac{9}{16}$
$\frac{9}{32}$	3.13	1.96	$4\frac{1}{4}$	$2\frac{1}{8}$	$\frac{27}{32}$	7.10	4.05	$9\frac{3}{8}$	$4\frac{11}{16}$
$\frac{19}{64}$	....	1.96	$4\frac{1}{2}$	$2\frac{1}{4}$	$\frac{7}{8}$	7.10	4.05	$9\frac{3}{4}$	$4\frac{7}{8}$
$\frac{5}{16}$	3.13	1.96	$4\frac{1}{2}$	$2\frac{1}{4}$	$\frac{29}{32}$	7.94	4.45	10	5
$\frac{21}{64}$	....	2.09	$4\frac{3}{4}$	$2\frac{3}{8}$	$\frac{15}{16}$	7.94	4.45	$10\frac{1}{4}$	$5\frac{1}{8}$
$\frac{11}{32}$	3.55	2.09	$4\frac{3}{4}$	$2\frac{3}{8}$	$\frac{31}{32}$	8.77	4.84	$10\frac{5}{8}$	$5\frac{5}{16}$
$\frac{23}{64}$	....	2.09	5	$2\frac{1}{2}$	1	8.77	4.84	$10\frac{7}{8}$	$5\frac{1}{16}$
$\frac{3}{8}$	3.55	2.09	5	$2\frac{1}{2}$	$\frac{11}{16}$	9.61	5.24	$11\frac{1}{4}$	$5\frac{5}{8}$
$\frac{25}{64}$	....	2.28	$5\frac{1}{4}$	$2\frac{5}{8}$	$\frac{1}{8}$	10.65	5.63	$11\frac{1}{8}$	$5\frac{13}{16}$
$\frac{13}{32}$	3.97	2.28	$5\frac{1}{4}$	$2\frac{5}{8}$	$\frac{13}{16}$	11.91	6.02	12	6
$\frac{27}{64}$	....	2.28	$5\frac{1}{2}$	$2\frac{3}{4}$	$\frac{11}{4}$	13.16	6.42	$12\frac{1}{4}$	$6\frac{1}{8}$
$\frac{7}{16}$	3.97	2.28	$5\frac{1}{2}$	$2\frac{3}{4}$	$\frac{15}{16}$	14.42	6.81	$12\frac{1}{2}$	$6\frac{1}{4}$
$\frac{29}{64}$	....	2.48	$5\frac{3}{4}$	$2\frac{7}{8}$	$\frac{13}{8}$	15.67	7.33	$12\frac{3}{4}$	$6\frac{3}{8}$
$\frac{15}{32}$	4.38	2.48	$5\frac{3}{4}$	$2\frac{7}{8}$	$\frac{17}{16}$	17.13	7.86	$12\frac{7}{8}$	$6\frac{1}{16}$
$\frac{31}{64}$	....	2.48	6	3	$\frac{1}{2}$	18.60	8.38	13	$6\frac{1}{2}$
$\frac{1}{2}$	4.38	2.48	6	3	.....	.....	.....	.....	.....

Standard Spiral Fluted Hand Reamers

No. 604 **High Speed Steel**

No. 122E Carbon Steel



Slightly tapered on end to facilitate entering work.

Diam. Inches	High Speed Each	Carbon Each	Length Overall Inches	Lgth. Flute In.	Diam. Inches	High Speed Each	Carbon Each	Length Overall Inches	Lgth. Flute In.
$\frac{1}{8}$	.....	\$1.56	3	$1\frac{1}{2}$	$\frac{23}{32}$	\$5.68	.....	$8\frac{1}{8}$	$4\frac{1}{16}$
$\frac{5}{32}$	.....	1.90	$3\frac{1}{4}$	$1\frac{5}{8}$	$\frac{3}{4}$	6.68	\$4.05	$8\frac{3}{8}$	$4\frac{3}{16}$
$\frac{3}{16}$	.....	1.90	$3\frac{1}{2}$	$1\frac{3}{4}$	$\frac{25}{32}$	7.14	.....	$8\frac{3}{4}$	$4\frac{3}{8}$
$\frac{7}{32}$	.....	2.22	$3\frac{3}{4}$	$1\frac{7}{8}$	$\frac{13}{16}$	7.14	4.38	$9\frac{1}{8}$	$4\frac{9}{16}$
$\frac{1}{4}$	\$3.21	2.22	4	2	$\frac{27}{32}$	7.80	.....	$9\frac{3}{8}$	$4\frac{11}{16}$
$\frac{9}{16}$	3.46	2.35	$4\frac{1}{4}$	$2\frac{1}{8}$	$\frac{7}{8}$	7.80	4.84	$9\frac{3}{4}$	$4\frac{7}{8}$
$\frac{5}{8}$	3.46	2.35	$4\frac{1}{2}$	$2\frac{1}{4}$	$\frac{29}{32}$	8.73	.....	10	5
$\frac{11}{32}$	3.92	2.48	$4\frac{3}{4}$	$2\frac{3}{8}$	$\frac{15}{16}$	8.73	5.36	$10\frac{1}{4}$	$5\frac{1}{8}$
$\frac{3}{8}$	3.92	2.48	5	$2\frac{1}{2}$	$\frac{31}{32}$	9.65	.....	$10\frac{5}{8}$	$5\frac{5}{16}$
$\frac{13}{32}$	4.38	2.74	$5\frac{1}{4}$	$2\frac{5}{8}$	1	9.65	5.83	$10\frac{7}{8}$	$5\frac{1}{16}$
$\frac{7}{16}$	4.38	2.74	$5\frac{1}{2}$	$2\frac{3}{4}$	$\frac{11}{16}$	10.57	.....	$11\frac{1}{4}$	$5\frac{5}{8}$
$\frac{15}{32}$	4.84	3.01	$5\frac{3}{4}$	$2\frac{7}{8}$	$\frac{1}{8}$	11.70	.....	$11\frac{5}{8}$	$5\frac{13}{16}$
$\frac{1}{2}$	4.84	3.01	6	3	$\frac{13}{16}$	13.11	.....	12	6
$\frac{17}{32}$	5.30	.....	$6\frac{1}{4}$	$3\frac{1}{8}$	$\frac{11}{4}$	14.49	.....	$12\frac{1}{4}$	$6\frac{1}{8}$
$\frac{9}{16}$	4.30	3.14	$6\frac{1}{2}$	$3\frac{1}{4}$	$\frac{15}{16}$	15.88	.....	$12\frac{1}{2}$	$6\frac{1}{4}$
$\frac{19}{32}$	5.76	.....	$6\frac{3}{4}$	$3\frac{3}{8}$	$\frac{13}{8}$	17.26	.....	$12\frac{5}{8}$	$6\frac{3}{16}$
$\frac{5}{8}$	5.76	3.46	7	$3\frac{1}{2}$	$\frac{17}{16}$	18.84	.....	$12\frac{7}{8}$	$6\frac{1}{16}$
$\frac{21}{32}$	6.22	.....	$7\frac{3}{8}$	$3\frac{11}{16}$	$\frac{1}{2}$	20.48	.....	13	$6\frac{1}{2}$
$\frac{11}{16}$	6.22	3.80	$7\frac{3}{4}$	$3\frac{7}{8}$	.....	.....	.....	.....	.....

No. 603 Standard Fluted Jobbers' Reamers With Taper Shanks—High Speed Steel



Diameter Inches	Each	Length Overall Inches	Length Flute Inches	Taper Shank No.
1/4	\$3.34	5 3/16	2	1
9/32	3.55	5 3/16	2	1
5/16	3.55	5 1/2	2 1/4	1
11/32	3.97	5 1/2	2 1/4	1
3/8	3.97	5 3/16	2 1/2	1
13/32	4.38	5 3/16	2 1/2	1
7/16	4.38	6 1/8	2 3/4	1
15/32	4.80	6 1/8	2 3/4	1
1/2	4.80	6 7/16	3	1
17/32	5.22	6 7/16	3	1
9/16	5.22	6 3/4	3 1/4	1
19/32	5.64	6 3/4	3 1/4	1
5/8	5.64	7 9/16	3 1/2	2
21/32	6.06	7 9/16	3 1/2	2
11/16	6.06	8	3 7/8	2
23/32	6.47	8	3 7/8	2
3/4	6.47	8 3/8	4 3/16	2
13/16	7.10	8 3/8	4 3/16	2
7/8	7.94	9 3/16	4 7/8	2
15/16	8.77	10	5 1/8	3
1	9.61	10 3/8	5 1/8	3
11/16	10.45	10 5/8	5 5/8	3
1 1/8	11.49	10 7/8	5 13/16	3
1 1/4	12.74	11 1/8	6	3
1 1/2	14.00	12 9/16	6 1/8	4
1 5/8	15.25	12 11/16	6 3/4	4
1 3/4	16.51	12 13/16	6 3/4	4
1 7/8	17.97	13	6 7/8	4
2	19.43	13 1/8	6 7/2	4

Reamers for brass and bronze and other non-ferrous metals require special clearance and can be furnished on request.

No. 618 Standard Straight Fluted Chuckling Reamers With Straight Shanks High Speed Steel



Diameter Inches	High Speed Each	Length Overall Inches	Length Flute Inches	Diameter Shank Inches
1/8	\$1.21	3 1/2	7/8	7/64
9/32	1.52	4	1	9/64
3/16	1.52	4 1/2	1 1/8	11/64
7/32	1.82	5	1 1/4	13/64
1/4	1.82	6	1 1/2	15/64
9/32	1.97	6	1 1/2	17/64
5/16	1.97	6	1 1/2	9/32
11/32	2.28	6	1 1/2	9/32
3/8	2.28	7	1 3/4	5/16
13/32	2.58	7	1 3/4	5/16
7/16	2.58	7	1 3/4	3/8
15/32	2.88	7	1 3/4	3/8
1/2	2.88	8	2	7/16
17/32	3.19	8	2	7/16
9/16	3.19	8	2	7/16
19/32	3.49	8	2	7/16
5/8	3.49	9	2 1/4	9/16
21/32	3.80	9	2 1/4	9/16
11/16	3.80	9	2 1/4	9/16
23/32	4.10	9	2 1/4	5/8
3/4	4.10	9 1/2	2 1/2	5/8
25/32	4.40	9 1/2	2 1/2	5/8
13/16	4.40	9 1/2	2 1/2	5/8
27/32	4.86	9 1/2	2 1/2	3/4
7/8	4.86	10	2 5/8	3/4
29/32	5.47	10	2 5/8	3/4
15/16	5.47	10	2 5/8	3/4
31/32	6.08	10	2 5/8	7/8
1	6.08	10 1/2	2 3/4	7/8
1 1/16	6.84	10 1/2	2 3/4	7/8
1 1/8	7.60	11	2 3/4	1
1 1/4	8.36	11	2 3/4	1
1 1/2	9.27	11 1/2	3	1 1/4
1 5/8	10.33	11 1/2	3	1 1/4
1 3/4	11.40	12	3 1/4	1 1/2
1 7/8	12.46	12	3 1/4	1 1/2
2	13.52	12 1/2	3 1/2	1 3/4

Standard Spiral Fluted Chuckling Reamers High Speed Steel No. 618-S—with Straight Shank



No. 619-S—with Taper Shank



The flutes are all right hand spiral and right hand cut.

No. 618-S		No. 619-S		Length Overall Inches	Length Flute Inches
Diameter Inches	High Speed Each	Diam. Shank Inches	High Speed Each		
1/8	\$1.33	7/64	.....	3 1/2	7/8
9/32	1.67	9/64	.....	4	1
3/16	1.67	11/64	.....	4 1/2	1 1/8
7/32	2.00	13/64	.....	5	1 1/4
1/4	2.00	15/64	.....	6	1 1/2
9/32	2.18	17/64	\$2.33	6	1 1/2
5/16	2.18	9/32	2.51	6	1 1/2
11/32	2.51	5/16	2.85	7	1 3/4
3/8	2.51	5/16	2.85	7	1 3/4
13/32	2.85	3/8	3.19	7	1 3/4
7/16	2.85	3/8	3.19	7	1 3/4
15/32	3.19	7/16	3.52	8	2
1/2	3.19	7/16	3.52	8	2
17/32	3.52	9/16	3.85	8	2
9/16	3.52	9/16	3.85	8	2
19/32	3.85	5/8	4.18	9	2 1/4
5/8	3.85	5/8	4.18	9	2 1/4
21/32	4.18	3/4	4.52	9	2 1/4
11/16	4.18	3/4	4.52	9	2 1/4
23/32	4.52	7/8	4.86	9 1/2	2 1/2
3/4	4.52	7/8	4.86	9 1/2	2 1/2
25/32	4.86	15/16	5.34	9 1/2	2 1/2
13/16	4.86	15/16	5.34	9 1/2	2 1/2
27/32	5.34	1	6.01	10	2 5/8
7/8	5.34	1	6.01	10	2 5/8
29/32	6.01	1 1/16	6.68	10	2 5/8
15/16	6.01	1 1/8	6.68	10 1/2	2 5/8
31/32	6.68	1 1/4	7.35	10 1/2	2 5/8
1	6.68	1 1/4	7.35	11	2 7/8
1 1/16	7.53	1 1/8	8.20	11	2 7/8
1 1/8	8.36	1 1/4	9.02	11 1/2	3
1 1/4	9.20	1 1/2	9.88	11 1/2	3
1 1/2	10.21	1 3/4	10.87	12	3 1/4
1 5/8	11.36	1 3/4	12.03	12	3 1/4
1 3/4	12.54	1 7/8	13.22	12 1/2	3 1/2
1 7/8	13.70	2	14.37	12 1/2	3 1/2
2	14.89	2 1/4	15.56	12 1/2	3 1/2

No. 620 Standard Rose Chuckling Reamers With Straight Shanks High Speed Steel



Diam. In.	Each	Lgth. Overall In.	Diam. Shank In.	Diam. In.	Each	Lgth. Overall In.	Diam. Shank In.
1/8	\$1.21	3 1/2	7/8	11/16	\$3.80	9	2 1/4
9/32	1.52	4	1	3/4	4.10	9 1/2	2 1/2
3/16	1.52	4 1/2	1 1/8	13/16	4.40	9 1/2	2 1/2
7/32	1.82	5	1 1/4	7/8	4.86	10	2 5/8
1/4	1.82	6	1 1/2	15/16	5.47	10	2 5/8
9/32	1.97	6	1 1/2	1	6.08	10 1/2	2 3/4
5/16	1.97	6	1 1/2	11/16	6.84	10 1/2	2 3/4
11/32	2.28	6	1 1/2	1 1/8	7.60	11	2 7/8
3/8	2.28	7	1 3/4	1 1/4	8.36	11	2 7/8
13/32	2.58	7	1 3/4	1 1/2	9.27	11 1/2	3
7/16	2.58	7	1 3/4	1 5/8	10.33	11 1/2	3
15/32	2.88	7	1 3/4	1 3/8	11.40	12	3 1/4
1/2	2.88	8	2	1 7/8	12.46	12	3 1/4
9/16	3.19	8	2	1 1/2	13.52	12 1/2	3 1/2
5/8	3.49	9	2 1/4	.....	.....	.....	.....

No. 619 Standard Straight Fluted Chucking Reamers
High Speed Steel—With Morse Taper Shanks



All sizes and dimensions not listed are special.

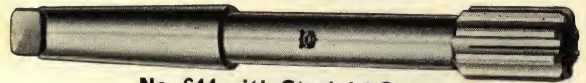
Diameter Inches	Each	Length Overall Inches	Length Flute Inches	Taper Shank No.
1/4	\$2.12	6	1 1/2	1
9/32	2.28	6	1 1/2	1
5/16	2.28	6	1 1/2	1
11/32	2.58	6	1 1/2	1
3/8	2.58	7	1 3/4	1
13/32	2.88	7	1 3/4	1
7/16	2.88	7	1 3/4	1
15/32	3.19	7	1 3/4	1
1/2	3.19	8	2	1
9/16	3.49	8	2	1
5/8	3.49	8	2	1
11/16	3.80	8	2	1
3/4	3.80	9	2 1/4	2
25/32	4.10	9	2 1/4	2
13/16	4.10	9	2 1/4	2
27/32	4.40	9	2 1/4	2
7/8	4.40	9 1/2	2 1/2	2
1 1/16	4.86	9 1/2	2 1/2	2
1 1/8	4.86	9 1/2	2 1/2	2
1 1/4	5.47	9 1/2	2 1/2	2
1 1/2	5.47	10	2 5/8	2
1 5/8	6.08	10	2 5/8	2
1 3/4	6.08	10	2 5/8	2
1 7/8	6.68	10 1/2	2 3/4	3
2	6.68	10 1/2	2 3/4	3
2 1/16	7.44	11	2 3/4	3
2 1/8	8.20	11	2 3/4	3
2 1/4	8.96	11 1/2	3	4
2 1/2	9.88	11 1/2	3	4
2 3/4	10.94	12	3 1/4	4
3	12.00	12	3 1/4	4
3 1/8	13.07	12 1/2	3 1/2	4
3 1/4	14.13	12 1/2	3 1/2	4

No. 621 Standard Rose Chucking Reamers
With Taper Shanks
High Speed Steel



Diameter Inches	Each	Length Overall Inches	Length Flute Inches	Taper Shank No.
1/4	\$2.12	6	1 1/2	1
9/32	2.28	6	1 1/2	1
5/16	2.28	6	1 1/2	1
11/32	2.58	6	1 1/2	1
3/8	2.58	7	1 3/4	1
13/32	2.88	7	1 3/4	1
7/16	2.88	7	1 3/4	1
15/32	3.19	7	1 3/4	1
1/2	3.19	8	2	1
9/16	3.49	8	2	1
5/8	3.80	9	2 1/4	2
11/16	4.10	9	2 1/4	2
3/4	4.40	9 1/2	2 1/2	2
13/16	4.86	9 1/2	2 1/2	2
7/8	5.47	10	2 5/8	2
15/16	6.04	10	2 5/8	2
1	6.68	10 1/2	2 3/4	3
1 1/16	7.44	10 1/2	2 3/4	3
1 1/8	8.20	11	2 3/4	3
1 1/4	8.96	11	2 3/4	3
1 1/2	9.88	11 1/2	3	4
1 5/8	10.94	11 1/2	3	4
1 3/4	12.00	12	3 1/4	4
1 7/8	13.07	12	3 1/4	4
2	14.13	12 1/2	3 1/2	4

Standard Hi-Bra Expansion Chucking Reamers
High Speed Steel
No. 642 with Taper Shank



No. 644 with Straight Shank



Especially adapted for rapid production operations. **High speed** steel blade is brazed into slots milled in a body of tough alloy steel. This construction gives the rigidity of a solid **high speed** reamer, and with greater strength.

No. 642 Taper Shank		No. 644 Straight Shank		Length Overall Inches	Length Flute Inches
Diameter Inches	Each	Diameter Inches	Each		
7/16	\$5.13	7/16	\$4.56	7	7/8
15/32	5.30	15/32	4.73	8	1
1/2	5.41	1/2	4.84	8	1
9/16	5.58	9/16	5.01	8	1 1/8
5/8	5.70	5/8	5.13	8	1 1/8
11/16	5.87	11/16	5.30	9	1 1/4
3/4	5.98	3/4	5.41	9	1 1/4
13/16	6.15	13/16	5.58	9 1/2	1 1/4
7/8	6.27	7/8	5.70	9	1 1/4
15/16	6.55	15/16	5.98	9	1 1/4
1	6.84	1	6.27	9 1/2	1 3/8
1 1/16	7.06	1 1/16	6.55	9 1/2	1 3/8
1 1/8	7.29	1 1/8	6.84	9 1/2	1 3/8
1 1/4	7.63	1 1/4	7.12	9 1/2	1 3/8
1 1/2	7.98	1 1/2	7.41	10	1 1/2
1 5/8	8.32	1 5/8	7.75	10	1 1/2
1 3/4	8.66	1 3/4	8.09	10	1 1/2
2	9.00	2	8.43	10	1 1/2
2 1/16	9.46	2 1/16	8.89	10 1/2	1 5/8
2 1/8	9.80	2 1/8	9.34	10 1/2	1 5/8
2 1/4	10.26	2 1/4	9.80	10 1/2	1 5/8
2 1/2	10.71	2 1/2	10.26	10 1/2	1 5/8
2 3/4	11.17	2 3/4	10.71	11	1 3/4
3	11.62	3	11.05	11	1 3/4
3 1/8	12.08	3 1/8	11.40	11	1 3/4
3 1/4	12.54	3 1/4	11.74	11	1 3/4
3 1/2	13.11	3 1/2	12.19	11 1/2	1 7/8
3 3/4	13.68	3 3/4	12.65	11 1/2	1 7/8
4	14.25	4	13.11	12	2
4 1/8	14.93	4 1/8	13.68	12	2
4 1/4	15.50	4 1/4	14.25	12 1/2	2 1/8
4 1/2	16.18	4 1/2	14.93	12 1/2	2 1/8
4 3/4	16.92	4 3/4	15.61	13	2 1/4
5	17.67	5	16.30	13	2 1/4
5 1/8	18.58	5 1/8	17.10	13 1/2	2 3/8
5 1/4	19.49	5 1/4	17.89	13 1/2	2 3/8
5 1/2	20.52	5 1/2	18.69	14	2 1/2
5 3/4	21.54	5 3/4	19.60	14	2 1/2
6	22.54	6	20.52	14	2 1/2

Standard Center Reamers

No. 664 High Speed Steel **No. 128B Carbon Steel**



Regularly furnished with 60° inclusive angle.

Reamers with 82° inclusive angle will be furnished at regular list.

Size Cut Inches	High Speed Each	Carbon Each	Length Overall Inches	Length Shank Inches	Diameter Shank Inches
1/4	\$.83	\$.66	1 1/2	3/4	3/16
3/8	.95	.75	1 3/4	7/8	1/4
1/2	1.16	.91	2	1	3/8
5/8	1.46	1.16	2 1/4	1	3/8
3/4	1.79	1.41	2 5/8	1 1/4	1/2

All sizes and dimensions not listed are special and are subject to special prices.

No. 682 Standard Helical Fluted Taper Pin Reamers

3-Fluted High Speed Steel



For use on drill presses, lathes, electric or air drills.
Tapers $\frac{1}{4}$ inch per foot.

Size No.	Each	Diam. Small End, In.	Diam. Large End, In.	Length Overall In.	Length Flute In.	Diam Shank In.
7-0	\$3.00	.0497	.0666	$1\frac{13}{16}$	$1\frac{13}{16}$	$\frac{5}{16}$
6-0	2.72	.0611	.0806	$1\frac{15}{16}$	$1\frac{15}{16}$	$\frac{3}{8}$
5-0	2.72	.0719	.0966	$2\frac{3}{16}$	$1\frac{13}{16}$	$\frac{7}{16}$
4-0	2.72	.0869	.1142	$2\frac{5}{16}$	$1\frac{15}{16}$	$\frac{1}{8}$
3-0	2.45	.1029	.1302	$2\frac{5}{16}$	$1\frac{15}{16}$	$\frac{9}{16}$
2-0	2.45	.1137	.1462	$2\frac{9}{16}$	$1\frac{15}{16}$	$\frac{5}{8}$
0	2.45	.1287	.1638	$2\frac{11}{16}$	$1\frac{11}{16}$	$\frac{11}{16}$
1	2.72	.1447	.1798	$2\frac{15}{16}$	$1\frac{11}{16}$	$\frac{11}{16}$
2	3.00	.1605	.2008	$3\frac{3}{16}$	$1\frac{15}{16}$	$\frac{13}{16}$
3	3.27	.1813	.2294	$3\frac{11}{16}$	$2\frac{5}{16}$	$\frac{15}{16}$
4	3.81	.2071	.2604	$4\frac{1}{16}$	$2\frac{9}{16}$	$\frac{17}{16}$
5	4.09	.2409	.2994	$4\frac{5}{16}$	$2\frac{13}{16}$	$\frac{17}{16}$
6	4.63	.2773	.3540	$5\frac{1}{16}$	$3\frac{11}{16}$	$\frac{23}{16}$
7	5.46	.3297	.4220	$6\frac{5}{16}$	$4\frac{7}{16}$	$\frac{13}{8}$
8	6.27	.3971	.5050	$7\frac{3}{16}$	$5\frac{3}{16}$	$\frac{7}{8}$
9	6.82	.4805	.6066	$8\frac{9}{16}$	$6\frac{1}{16}$	$\frac{9}{8}$
10	8.18	.5799	.7216	$9\frac{5}{16}$	$6\frac{13}{16}$	$\frac{5}{8}$

Standard Taper Pin Reamers

Tapers $\frac{1}{4}$ inch per foot.

Reamers all have the same taper, and the point of each will enter a hole reamed by the next smaller size.

No. 680 High Speed Steel No. 126 Carbon Steel



No.	High Speed Each	Carbon Each	Diam. Small End, In.	Diam. Large End, In.	Length Overall In.	Length Flute In.	Diam. Shank In.
7-0	\$2.62	\$1.55	.0497	.0666	$1\frac{13}{16}$	$1\frac{13}{16}$	$\frac{5}{16}$
6-0	2.62	1.42	.0611	.0806	$1\frac{15}{16}$	$1\frac{15}{16}$	$\frac{3}{8}$
5-0	2.43	1.33	.0719	.0966	$2\frac{3}{16}$	$1\frac{13}{16}$	$\frac{7}{16}$
4-0	2.43	1.33	.0869	.1142	$2\frac{5}{16}$	$1\frac{15}{16}$	$\frac{1}{8}$
3-0	2.43	1.33	.1029	.1302	$2\frac{5}{16}$	$1\frac{15}{16}$	$\frac{9}{16}$
2-0	2.25	1.19	.1137	.1462	$2\frac{9}{16}$	$1\frac{15}{16}$	$\frac{5}{8}$
0	2.09	.89	.1287	.1638	$2\frac{11}{16}$	$1\frac{11}{16}$	$\frac{11}{16}$
1	2.17	.89	.1447	.1798	$2\frac{15}{16}$	$1\frac{11}{16}$	$\frac{11}{16}$
2	2.25	1.11	.1605	.2008	$3\frac{3}{16}$	$1\frac{15}{16}$	$\frac{13}{16}$
3	2.25	1.33	.1813	.2294	$3\frac{11}{16}$	$2\frac{5}{16}$	$\frac{15}{16}$
4	2.43	1.55	.2071	.2604	$4\frac{1}{16}$	$2\frac{9}{16}$	$\frac{17}{16}$
5	2.62	1.78	.2409	.2994	$4\frac{5}{16}$	$2\frac{13}{16}$	$\frac{17}{16}$
6	3.18	2.00	.2773	.3540	$5\frac{1}{16}$	$3\frac{11}{16}$	$\frac{23}{16}$
7	3.93	2.23	.3297	.4220	$6\frac{5}{16}$	$4\frac{7}{16}$	$\frac{13}{8}$
8	5.06	2.67	.3971	.5050	$7\frac{3}{16}$	$5\frac{3}{16}$	$\frac{7}{8}$
9	6.18	3.12	.4805	.6066	$8\frac{9}{16}$	$6\frac{1}{16}$	$\frac{9}{8}$
10	6.75	4.01	.5799	.7216	$9\frac{5}{16}$	$6\frac{13}{16}$	$\frac{5}{8}$

No. 681 High Speed Steel No. 126B Carbon Steel



No.	High Speed Each	Carbon Each	Diam. Small End, In.	Diam. Large End, In.	Length Overall In.	Length Flute In.	Diam. Shank In.
7-0	\$2.88	\$1.87	.0497	.0666	$1\frac{13}{16}$	$1\frac{13}{16}$	$\frac{5}{16}$
6-0	2.88	1.73	.0611	.0806	$1\frac{15}{16}$	$1\frac{15}{16}$	$\frac{3}{8}$
5-0	2.69	1.60	.0719	.0966	$2\frac{3}{16}$	$1\frac{13}{16}$	$\frac{7}{16}$
4-0	2.69	1.60	.0869	.1142	$2\frac{5}{16}$	$1\frac{15}{16}$	$\frac{1}{8}$
3-0	2.69	1.60	.1029	.1302	$2\frac{5}{16}$	$1\frac{15}{16}$	$\frac{9}{16}$
2-0	2.47	1.47	.1137	.1462	$2\frac{9}{16}$	$1\frac{15}{16}$	$\frac{5}{8}$
0	2.31	1.06	.1287	.1638	$2\frac{11}{16}$	$1\frac{11}{16}$	$\frac{11}{16}$
1	2.39	1.06	.1447	.1798	$2\frac{15}{16}$	$1\frac{11}{16}$	$\frac{11}{16}$
2	2.47	1.33	.1605	.2008	$3\frac{3}{16}$	$1\frac{15}{16}$	$\frac{13}{16}$
3	2.47	1.60	.1813	.2294	$3\frac{11}{16}$	$2\frac{5}{16}$	$\frac{15}{16}$
4	2.69	1.87	.2071	.2604	$4\frac{1}{16}$	$2\frac{9}{16}$	$\frac{17}{16}$
5	2.88	2.13	.2409	.2994	$4\frac{5}{16}$	$2\frac{13}{16}$	$\frac{17}{16}$
6	3.52	2.40	.2773	.3540	$5\frac{1}{16}$	$3\frac{11}{16}$	$\frac{23}{16}$
7	4.35	2.67	.3297	.4220	$6\frac{5}{16}$	$4\frac{7}{16}$	$\frac{13}{8}$
8	5.58	3.21	.3971	.5050	$7\frac{3}{16}$	$5\frac{3}{16}$	$\frac{7}{8}$
9	6.82	3.74	.4805	.6066	$8\frac{9}{16}$	$6\frac{1}{16}$	$\frac{9}{8}$
10	7.42	4.81	.5799	.7216	$9\frac{5}{16}$	$6\frac{13}{16}$	$\frac{5}{8}$

All sizes, dimensions and styles not listed are special and subject to special prices.

Standard Counterbores

High Speed Steel

No. 658 with Taper Shanks



No. 659 with Straight Shanks



Type No. 1

For counterboring for the head of fillister head cap screws. Has a pilot the same size as body of screw.

Diam. In.	THREADS PER INCH			Diam. Cutter In.	Diam. Pilot In.	Lenth. Overall In.	No. 658 Taper Shank		No. 659 Straight Shank	
	N.C.	N.F.	N.S.				Each	No.	Each	No.
$\frac{1}{4}$	20	28	..	.380	$\frac{1}{4}$	$5\frac{3}{4}$	\$3.52	1	\$3.11	$\frac{3}{8}$
$\frac{5}{16}$	18	24	..	.4425	$\frac{5}{16}$	$6\frac{1}{8}$	3.73	1	3.39	$\frac{7}{16}$
$\frac{3}{8}$	16	24	..	.5675	$\frac{3}{8}$	$6\frac{1}{2}$	4.07	1	4.07	$\frac{9}{16}$
$\frac{7}{16}$	14	20	..	.630	$\frac{7}{16}$	7	4.75	2	4.40	$\frac{5}{8}$
$\frac{1}{2}$	13	20	..	.760	$\frac{1}{2}$	$7\frac{1}{4}$	4.88	2	4.88	$\frac{3}{4}$
$\frac{9}{16}$	12	18	..	.8225	$\frac{9}{16}$	$7\frac{1}{2}$	5.43	2	5.43	$\frac{13}{16}$
$\frac{5}{8}$	11	18	..	.885	$\frac{5}{8}$	$7\frac{3}{4}$	6.10	2	6.10	$\frac{7}{8}$
$\frac{11}{16}$	..	..	11	.9475	$\frac{11}{16}$	$8\frac{1}{2}$	6.79	3	6.79	$\frac{15}{16}$
$\frac{3}{4}$	10	16	..	1.010	$\frac{3}{4}$	9	8.15	3	8.15	1
$\frac{13}{16}$	..	..	10	1.0725	$\frac{13}{16}$	9	9.30	3	9.30	$\frac{11}{8}$
$\frac{7}{8}$	9	14	..	1.135	$\frac{7}{8}$	$9\frac{1}{4}$	11.00	3	11.00	$\frac{11}{8}$
$\frac{15}{16}$	..	..	9	1.1975	$\frac{15}{16}$	$9\frac{1}{4}$	12.01	3	12.01	$\frac{13}{8}$
1	8	14	..	1.3225	1	$9\frac{1}{2}$	14.06	3	14.06	$\frac{15}{8}$

Type No. 2

For counterboring for the head of fillister head screws. Has a pilot the same size as tap drill.

Diam. In.	N.C.	N.F.	N.S.	Diam. Cutter In.	Diam. Pilot In.	Lenth. Overall In.	No. 658A		No. 659A	
							Each	No.	Each	No.
$\frac{1}{4}$	20	..	..	.380	.201	$5\frac{3}{4}$	\$3.52	1	\$3.11	$\frac{3}{8}$
$\frac{1}{4}$	..	28	..	.380	.213	$5\frac{3}{4}$	3.52	1	3.11	$\frac{3}{8}$
$\frac{5}{16}$	18	..	..	.4425	.257	$6\frac{1}{8}$	3.73	1	3.39	$\frac{7}{16}$
$\frac{5}{16}$	..	24	..	.4425	.272	$6\frac{1}{8}$	3.73	1	3.39	$\frac{7}{16}$
$\frac{3}{8}$	16	..	..	.5675	.312	$6\frac{1}{2}$	4.07	1	4.07	$\frac{9}{16}$
$\frac{3}{8}$	..	24	..	.5675	.332	$6\frac{1}{2}$	4.07	1	4.07	$\frac{9}{16}$
$\frac{7}{16}$	14	..	..	.630	.368	7	4.75	2	4.40	$\frac{5}{8}$
$\frac{7}{16}$	..	20	..	.630	.390	7	4.75	2	4.40	$\frac{5}{8}$
$\frac{1}{2}$	13	..	..	.760	.421	$7\frac{1}{4}$	4.88	2	4.88	$\frac{3}{4}$
$\frac{1}{2}$	..	20	..	.760	.453	$7\frac{1}{4}$	4.88	2	4.88	$\frac{3}{4}$
$\frac{9}{16}$	12	..	..	.8225	.484	$7\frac{1}{2}$	5.43	2	5.43	$\frac{13}{16}$
$\frac{9}{16}$	..	18	..	.8225	.515	$7\frac{1}{2}$	5.43	2	5.43	$\frac{13}{16}$
$\frac{5}{8}$	11	..	..	.885	.531	$7\frac{3}{4}$	6.10	2	6.10	$\frac{7}{8}$
$\frac{5}{8}$	..	18	..	.885	.578	$7\frac{3}{4}$	6.10	2	6.10	$\frac{7}{8}$
$\frac{11}{16}$	..	..	11	.9475	.593	$8\frac{1}{2}$	6.79	3	6.79	$\frac{15}{16}$
$\frac{3}{4}$	10	..	..	1.010	.656	9	8.15	3	8.15	1
$\frac{3}{4}$	..	16	..	1.010	.687	9	8.15	3	8.15	1
$\frac{13}{16}$	..	..	10	1.0725	.718	9	9.30	3	9.30	$\frac{11}{8}$
$\frac{7}{8}$	9	..	..	1.135	.765	$9\frac{1}{4}$	11.00	3	11.00	$\frac{11}{8}$
$\frac{7}{8}$	..	14	..	1.135	.812	$9\frac{1}{4}$	12.01	3	12.01	$\frac{13}{8}$
$\frac{15}{16}$	..	..	9	1.1975	.828	$9\frac{1}{4}$	14.06	3	14.06	$\frac{15}{8}$
1	8	..	..	1.3225	.875	$9\frac{1}{2}$	14.06	3	14.06	$\frac{15}{8}$
1	..	14	..	1.3225	.937	$9\frac{1}{2}$	14.06	3	14.06	$\frac{15}{8}$

Type No. 3

For counterboring for the body of fillister head screws. Has a pilot the same size as tap drill.

							No. 658B		No. 659B	
1/4	20	..	..	.255	.201	5 3/4	\$3.52	1	\$3.11	3/8
1/4	..	28	..	.255	.213	5 3/4	3.52	1	3.11	3/8
5/16	18	..	..	.3175	.257	6 1/8	3.73	1	3.39	7/16
5/16	..	24	..	.3175	.272	6 1/8	3.73	1	3.39	7/16
3/8	16	..	..	.380	.312	6 1/2	3.93	1	4.07	7/16
3/8	..	24	..	.380	.332	6 1/2	3.93	1	4.07	9/16
7/16	14	..	..	.4425	.368	7	4.75	2	4.40	5/8
7/16	..	20	..	.4425	.390	7	4.75	2	4.40	5/8
1/2	13	..	..	.505	.421	7 1/4	4.88	2	4.88	3/4
1/2	..	20	..	.505	.453	7 1/4	4.88	2	4.88	3/4
9/16	12	..	..	.5675	.484	7 1/2	5.02	2	5.43	13/16
9/16	..	18	..	.5675	.515	7 1/2	5.02	2	5.43	13/16
5/8	11	..	..	.630	.531	7 3/4	5.15	2	6.10	7/8
5/8	..	18	..	.630	.578	7 3/4	5.15	2	6.10	7/8
11/16	..	11	..	.6975	.593	8 1/2	6.79	3	6.79	15/16
3/4	10	..	..	.760	.656	9	7.12	3	8.15	1
3/4	..	16	..	.760	.687	9	7.12	3	8.15	1
13/16	..	10	..	.8225	.718	9	7.12	3	8.15	1
7/8	9	..	..	.885	.765	9 1/4	7.46	3	8.48	1
7/8	..	14	..	.885	.812	9 1/4	7.46	3	8.48	1
15/16	..	9	..	.9475	.828	9 1/4	7.46	3	8.48	1
1	8	..	..	1.010	.875	9 1/2	8.82	3	8.82	1
1	..	14	..	1.010	.937	9 1/2	8.82	3	8.82	1

No. 615 Standard Straight Fluted Shell Reamers

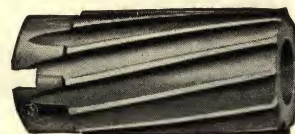
High Speed Steel



Diam. In.	Each	Diam. Hole Large End In.	Length Over-all In.	Fitting Arbor No.	Diam. In.	Each	Diam. Hole Large End In.	Length Over-all In.	Fitting Arbor No.
3/4	\$5.62	3/8	2 1/4	4	2	\$19.75	1	3 1/2	8
13/16	5.85	1/2	2 1/2	5	2 1/16	20.84	1 1/4	3 3/4	9
7/8	6.21	1/2	2 1/2	5	2 1/8	21.94	1 1/4	3 3/4	9
15/16	6.58	1/2	2 1/2	5	2 3/16	23.03	1 1/4	3 3/4	9
1	6.94	1/2	2 1/2	5	2 1/4	24.13	1 1/4	3 3/4	9
1 1/16	7.31	5/8	2 3/4	6	2 5/16	25.23	1 1/4	3 3/4	9
1 1/8	7.67	5/8	2 3/4	6	2 3/8	26.33	1 1/4	3 3/4	9
1 1/4	8.04	5/8	2 3/4	6	2 7/16	27.42	1 1/4	3 3/4	9
1 1/2	8.40	5/8	2 3/4	6	2 1/2	28.52	1 1/4	3 3/4	9
1 5/8	8.77	3/4	3	7	2 5/8	29.99	1 1/2	4	10
1 3/4	9.14	3/4	3	7	2 3/4	31.87	1 1/2	4	10
1 7/8	9.50	3/4	3	7	2 11/16	33.64	1 1/2	4	10
2	10.24	3/4	3	7	2 1/2	35.47	1 1/2	4	10
2 1/16	10.97	3/4	3	7	2 1/2	37.30	1 1/2	4	10
2 1/8	12.06	3/4	3	7	2 1/2	39.50	1 1/2	4	10
2 1/4	13.16	3/4	3	7	2 1/2	41.69	1 1/2	4	10
2 3/8	14.25	1	3 1/2	8	2 1/2	43.89	1 1/2	4	10
2 1/2	15.36	1	3 1/2	8	2 1/2	43.89	1 1/2	4	10
2 5/8	16.45	1	3 1/2	8	2 1/2	43.89	1 1/2	4	10
2 3/4	17.55	1	3 1/2	8	2 1/2	43.89	1 1/2	4	10
2 7/8	18.64	1	3 1/2	8	2 1/2	43.89	1 1/2	4	10

No. 617 Standard Spiral Fluted Shell Reamers

High Speed Steel



Diam. In.	Each	Diam. Hole Large End In.	Length Over-all In.	Fitting Arbor No.	Diam. In.	Each	Diam. Hole Large End In.	Length Over-all In.	Fitting Arbor No.
3/4	\$6.21	3/8	2 1/4	4	2	\$21.71	1	3 1/2	8
13/16	6.43	1/2	2 1/2	5	2 1/16	22.96	1 1/4	3 3/4	9
7/8	6.86	1/2	2 1/2	5	2 1/8	24.13	1 1/4	3 3/4	9
15/16	7.23	1/2	2 1/2	5	2 3/16	25.37	1 1/4	3 3/4	9
1	7.67	1/2	2 1/2	5	2 1/4	26.55	1 1/4	3 3/4	9
1 1/16	8.04	5/8	2 3/4	6	2 5/16	27.79	1 1/4	3 3/4	9
1 1/8	8.48	5/8	2 3/4	6	2 3/8	28.96	1 1/4	3 3/4	9
1 1/4	8.84	5/8	2 3/4	6	2 7/16	30.21	1 1/4	3 3/4	9
1 1/2	9.28	5/8	2 3/4	6	2 1/2	31.37	1 1/4	3 3/4	9
1 5/8	9.65	3/4	3	7	2 5/8	32.98	1 1/2	4	10
1 3/4	10.45	3/4	3	7	2 3/4	35.03	1 1/2	4	10
1 7/8	11.25	3/4	3	7	2 11/16	37.01	1 1/2	4	10
2	12.06	3/4	3	7	2 1/2	39.05	1 1/2	4	10
2 1/16	13.30	3/4	3	7	2 1/2	41.03	1 1/2	4	10
2 1/8	14.47	3/4	3	7	2 1/2	43.44	1 1/2	4	10
2 1/4	15.72	1	3 1/2	8	2 1/2	45.85	1 1/2	4	10
2 3/8	16.89	1	3 1/2	8	2 1/2	45.85	1 1/2	4	10
2 1/2	18.13	1	3 1/2	8	2 1/2	45.85	1 1/2	4	10
2 5/8	19.30	1	3 1/2	8	2 1/2	45.85	1 1/2	4	10
2 3/4	20.54	1	3 1/2	8	2 1/2	45.85	1 1/2	4	10

No. 130 Standard Straight Shank Arbors

For Shell Reamers and Shell Drills

Carbon Steel



All sizes and dimensions not listed are special and subject to special prices.

Size No.	Each	Fitting Sizes Inches	Overall Length Inches	Shank Diam. Inches
4	\$4.22	2 1/16 to 2 5/16	9	1 1/2
5	4.70	13/16 to 1 1/2	9 1/2	5/8
6	5.16	1 1/16 to 1 5/8	10	3/4
7	5.64	1 1/8 to 1 7/8	11	7/8
8	6.27	1 1/4 to 2	12	1 1/8
9	7.04	2 1/16 to 2 1/2	13	1 3/8
10	8.22	2 1/8 to 3	14	1 5/8

No. 125 Morse Taper Finishing Reamers

With Straight Shanks

Carbon Steel



All sizes and dimensions not listed are special and subject to special prices.

Size No.	Each	DIMENSIONS, INCHES			
		DIAMETER		Length Overall	Length Flute
0	\$2.50	Small End	Large End		
1	3.18	.250	.376	3 3/4	2 1/4
2	4.07	.367	.517	5	3
3	5.32	.569	.745	6	3 1/2
4	6.58	.775	.988	7 1/4	4 1/4
5	10.37	1.017	1.289	8 1/2	5 1/4
6	18.81	1.471	1.799	9 3/4	6 1/4
		2.112	2.555	12 1/4	8 1/2

No. 130A Standard Taper Shank Arbors

For Shell Reamers



All sizes and dimensions not listed are special and subject to special prices.

Size No.	Each	Std. Taper Shank No.	Fitting Sizes Inches	Length Overall Inches
4	\$5.09	2	2 1/16 to 2 5/16	9
5	5.64	2	13/16 to 1 1/2	9 1/2
6	6.18	3	1 1/16 to 1 5/8	10
7	6.73	3	1 1/8 to 1 7/8	11
8	7.52	4	1 1/4 to 2	12
9	8.46	4	2 1/16 to 2 1/2	13
10	9.87	5	2 1/8 to 3	14

No. 125E Standard Finishing Reamers

For Brown & Sharpe Tapers—Carbon Steel



All sizes and dimensions not listed are special and subject to special prices.

Size No.	Length Over All In.	Length Flute In.	Price Each	Size No.	Length Over All In.	Length Flute In.	Price Each
1	4 3/4	2 7/8	\$2.73	7	7 1/2	4 7/8	\$5.48
2	5 1/8	3 1/8	3.13	8	8 1/8	5 1/2	5.87
3	5 1/2	3 3/8	3.52	9	8 7/8	6 1/8	6.27
4	5 7/8	3 11/16	3.91	10	9 3/4	6 7/8	7.83
5	6 3/8	4	4.70	11	10 5/8	7 3/8	9.40
6	6 7/8	4 3/8	5.09	12	11 3/8	8 1/4	12.54

No. 629 Standard Spiral Fluted Taper Bridge Reamers

With Taper Shanks—*High Speed Steel*



Used in pneumatic and electrical tools, on boiler, bridge, ship and general structural iron work.

Tapered on end to facilitate entering the work.

Full Diameter Inches	Each	Diam. at Point Inches	Length Overall Inches	Length of Flute Inches	Taper Shank No.
13/32	\$2.35	17/32	8 1/4	4 3/8	2
7/16	2.35	1/4	8 1/4	4 3/8	2
15/32	2.52	1/4	9	5 1/8	2
1/2	2.52	9/32	9	5 1/8	2
17/32	2.77	5/16	9	5 1/8	2
9/16	2.77	11/32	9	5 1/8	2
5/8	3.25	3/8	10	6 1/8	2
11/16	3.80	25/64	11 3/4	7 1/8	3
3/4	4.16	7/16	12	7 3/8	3
13/16	4.50	1/2	12	7 3/8	3
7/8	4.85	9/16	12	7 3/8	3
15/16	5.36	5/8	12	7 3/8	3
1	5.89	11/16	12	7 3/8	3
1 1/16	6.58	3/4	12	7 3/8	3
1 1/8	7.27	13/16	12	7 3/8	3
1 1/4	8.14	7/8	12	7 3/8	3
1 1/2	9.70	15/16	13	7 3/8	4
1 5/8	10.74	1	13	7 3/8	4
1 3/4	12.13	1 1/16	13	7 3/8	4
1 7/8	13.51	1 1/8	13	7 3/8	4
2	15.25	1 1/4	13	7 3/8	4

Standard Taper Car Reamers

Taper Shank—Short Body—*High Speed Steel*

No. 630 Straight Fluted

No. 631 Spiral Fluted



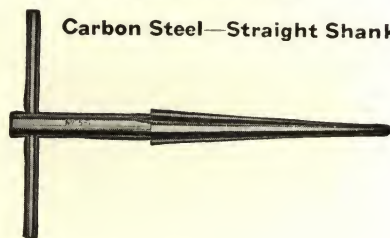
Full Diameter Inches	Each	Diameter at Point Inches	Length Overall Inches	Length of Flute Inches	Morse Taper Shank No.
1/4	\$1.76	1/8	5 1/16	2 1/2	1
9/32	1.76	5/32	5 1/16	2 1/2	1
5/16	1.87	1/16	5 11/16	2 3/4	1
11/32	1.93	13/64	5 11/16	2 3/4	1
3/8	1.93	15/64	5 11/16	2 3/4	1
13/32	2.08	17/64	6 3/16	2 3/4	2
7/16	2.14	1/4	6 15/16	3 1/2	2
15/32	2.31	9/32	7 1/16	3 1/2	2
1/2	2.38	19/64	7 9/16	4	2
17/32	2.52	1/4	7 9/16	4	2
9/16	2.52	9/32	7 9/16	4	2
5/8	2.77	9/16	8 1/16	4 1/2	2
11/16	3.11	3/8	8 13/16	4 1/2	3
3/4	3.46	13/32	9 1/2	5	3
13/16	3.70	15/32	9 1/2	5	3
7/8	3.95	17/32	9 1/2	5	3
15/16	4.29	19/32	9 1/2	5	3
1	4.67	21/32	9 1/2	5	3
1 1/16	5.19	23/32	9 1/2	5	3
1 1/8	5.71	25/32	9 1/2	5	3
1 1/4	6.41	27/32	9 1/2	5	3
1 1/2	7.62	29/32	9 1/2	5	3

Can also be furnished with slabbed shanks.

Car reamers of carbon steel or with dimensions differing from this list are special and subject to special prices.

GTD No. T5 Repairmen's T-Handle Taper Reamers

Carbon Steel—Straight Shank



For enlarging holes in metal.

Diameter at large end, 1/2 inch; at point, 1/8 inch. Overall length, 5 1/2 inches; reamer length, 3 1/2 inches. Taper 1/4 inches per foot.

No. T5, Weight, 2 Ounces.....each \$1.00

GTD Repairmen's Taper Reamers

Straight Round Shank



For use in electric drills. Also used by automobile and bicycle repair men, blacksmiths, electricians, machinists, plumbers, carpenters and carriage builders for enlarging holes in thin metals.

Made of carbon steel.

No.	Each	Diameter at Large End	Diameter at Point	Length Overall	Length Reamer Part	Diameter Shank	Weight
135	\$1.00	1/2	1/8	5 1/2	3 1/2	3/8	2
136	1.50	1	3/8	6 3/8	4 1/2	1/2	5

GTD Repairman's Taper Reamers

Carbon Steel—Bit Brace Shank



No.	Each	Diameter Large End Inches	Diameter Point Inches	Length Overall Inches	Length Flute Inches	Taper per Ft. Inches
5	\$1.00	1/2	1/8	5 1/2	3 1/2	1 1/4
6	1.50	1	3/8	6 1/2	4 1/2	1 5/8
56	1.25	1 5/16	3/16	5	3 1/16	1 5/8

Nicholson Machinists' Scrapers



Three Square—4x3/8 Inches, 60° Angle



Cant Blunt—4x1 7/32 Inches, 110° Angle



Half Round Blunt—4x1 9/32x5/32 Inches



Round Blunt—4x1 1/2 Inches



Mill Blunt—4x1 9/32x3/32 Inches



Three Square Blunt—4x3/8 Inches, 60° Angle

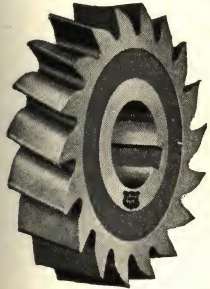
Made in six shapes. Furnished dead hard. Overall length, including handles, approximately 9 1/4 inches. Packed 6 In A Box.....per set of 6 \$3.20

No. 700 Standard Plain Milling Cutters

Light Duty—High Speed Steel

Cutters of less than 3/4-inch face have straight teeth. Cutters of 3/4-inch face and over have spiral teeth.

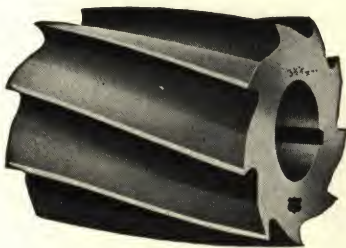
Nicked teeth or dimensions other than listed are special and subject to special prices.



Diam. Inches	Width Inches	Hole Inches	Each	Diam. Inches	Width Inches	Hole Inches	Each
2 1/4	1 1/2	7/8	\$4.70	3	5/8	1 1/4	\$7.21
	1	7/8	6.27		3/4	1 1/4	7.83
2 1/2	3/16	1	3.23		7/8	1 1/4	8.46
	1/4	1	4.28		1	1 1/4	9.09
	5/16	1	4.49		1 1/4	1 1/4	10.34
	3/8	1	4.80		1 1/2	1 1/4	11.49
	7/16	1	5.12		2	1 1/4	14.00
	1/2	1	5.32		3	1 1/4	18.91
	5/8	1	5.85	4	1/4	1	7.41
	3/4	1	6.27		1/4	1 1/4	7.41
	1	1	7.21		5/16	1	8.04
	1 1/2	1	8.98		5/16	1 1/4	8.04
	2	1	10.76		3/8	1	8.56
	2 1/2	1	12.64		3/8	1 1/4	8.56
	3	1	14.31		1/2	1 1/4	9.71
3	3/16	1	3.97		5/8	1 1/4	10.65
	1/4	1	5.22		3/4	1 1/4	11.70
	5/16	1	5.64		1	1 1/4	13.68
	3/8	1	5.95		1 1/2	1 1/4	17.86
	7/16	1 1/4	5.95		2	1 1/4	21.94
	1/2	1 1/4	6.27		3	1 1/4	30.20
	5/8	1 1/4	6.68		4	1 1/4	41.95

No. 800 Standard Plain Milling Cutters

Heavy Duty
High Speed Steel



Heavy duty cutters have approximately only one-half the number of teeth of regular milling cutters, and their chip space is about four times as great.

Can be used with very fast feeds, and are especially adapted for use on modern heavy duty milling machines.

Cutters having nicked teeth or dimensions other than listed are special and subject to special prices.

Cutters of carbon steel are special.

Diam. Inches	Width Inches	Hole Inches	Each	Diam. Inches	Width Inches	Hole Inches	Each
2 1/2	2	1	\$10.76	4	2	1 1/2	\$21.94
	4	1	18.07		3	1 1/2	30.20
3	2	1 1/4	14.00		4	1 1/2	41.95
	2 1/2	1 1/4	16.51		6	1 1/2	61.44
	3	1 1/4	18.91	4 1/2	6	2	75.58
	4	1 1/4	23.82	...	...	...	...
	6	1 1/4	38.30	...	...	...	...

No. 702 Standard Side Milling Cutters

High Speed Steel



Cutters having dimensions other than listed are special and subject to special prices.

Diam. Inches	Width Inches	Hole Inches	Each	Diam. Inches	Width Inches	Hole Inches	Each
2	3/16	1/2	\$4.38	4	7/8	1	\$14.94
	1/4	1/2	4.59		7/8	1 1/4	14.94
	3/8	1/2	5.01	5	1/2	1	15.77
2 1/2	1/4	7/8	5.64		1/2	1 1/4	15.77
	5/16	7/8	5.95		5/8	1	17.45
	3/8	7/8	6.27		5/8	1 1/4	17.45
	1/2	7/8	6.89		3/4	1	19.01
3	1/4	1	6.79		3/4	1 1/4	19.01
	5/16	1	7.21	6	1	1 1/4	22.25
	3/8	1	7.52		1 1/2	1	20.58
	7/16	1	7.94		1 1/2	1 1/4	20.58
	1/2	1	8.36		5/8	1 1/4	22.78
4	1/4	1	9.40		3/4	1	25.08
	3/8	1	10.55		3/4	1 1/4	25.08
	1/2	1	11.80	7	1	1 1/4	29.67
	1 1/2	1 1/4	11.80		3/4	1 1/4	39.21
	5/8	1	12.85		1	1 1/4	45.94
	5/8	1 1/4	12.85	8	1	1 1/4	52.09
	3/4	1	13.89		3/4	1 1/4	60.87
	1 1/4	1 1/4	13.89		1	1 1/4	60.87

No. 704 Standard Staggered Tooth Side Milling Cutters

High Speed Steel



Recommended for slotting where it is desired to maintain widths of close limits.

The alternate spiral counteracts all tendency to chatter.

Diam. In.	Width In.	Hole In.	Each	Diam. In.	Width In.	Hole In.	Each
2 1/2	1/4	7/8	\$7.10	4	5/8	1 1/4	\$16.09
	3/16	7/8	7.41		3/4	1 1/4	17.34
	3/8	7/8	7.83		7/8	1 1/4	18.70
	1/2	7/8	8.67	5	1/2	1 1/4	19.75
3	3/16	1	8.15		5/8	1 1/4	21.84
	1/4	1	8.46		3/4	1 1/4	23.82
	5/16	1	8.98	6	3/8	1 1/4	22.78
	3/8	1	9.40		1/2	1 1/4	25.70
	1/2	1 1/4	10.45		5/8	1 1/4	28.52
	5/8	1 1/4	11.28		3/4	1 1/4	31.35
	3/4	1 1/4	12.01		7/8	1 1/4	37.39
4	1/4	1 1/4	11.80	8	1	1 1/4	40.47
	5/16	1 1/4	12.54		3/8	1 1/2	48.33
	3/8	1 1/4	13.16		1/2	1 1/2	54.03
	7/16	1 1/4	14.00		5/8	1 1/2	59.62
	1/2	1 1/4	14.73		3/4	1 1/2	65.09

Standard Half Side Milling Cutters

High Speed Steel

No. 705, Right Hand

No. 705L, Left Hand



No. 705

Cutter has many advantages over ordinary type of side milling cutter.

This is particularly true of side milling operations where only one side of the cutter is used, as in straddle milling.

Spiral gashes give positive side rake to teeth and promote smooth cutting action and longer tool life. This also tends

to lessen the power consumption for a given cut.

The side teeth have considerably deeper gashes than on ordinary side milling cutters and thus provide larger chip spaces and increased sharpening life.

When ordering, specify whether right or left-hand cutter is wanted. When ordering special half side milling cutters, give dimensions of the following: outside diameter; back clearance; hole; axial rake angle; face width; radial rake angle and keyway and specify number of teeth.



No. 705L

Diameter—Inches	Width Face—Inches	Size Hole—Inches	No. of Teeth	Each*
4	3/4	1 1/4	16	\$13.89
5	3/4	1 1/4	18	19.01
6	3/4	1 1/4	20	25.08
6	1	1 1/2	20	29.67
7	3/4	1 1/2	22	39.21
7	1	1 1/2	22	45.74
8	3/4	1 1/2	24	52.09
8	1	1 1/2	24	60.87

No. 701 Standard Helical Plain Milling Cutters

High Speed Steel



Shear cutting action permits high speeds for smooth finishes.

Large helix angle causes cutters to absorb most of load in end thrust, does not force cutter away from work.

Furnished with 52-degree angle, left hand.

Diameter....inches	3	3	4	4	4
No. 701.....each	\$26.22	42.18	46.14	67.60	91.88
Width of Face.....inches	4	6	4	6	8
Size of Hole....inches	1 1/4	1 1/4	1 1/2	1 1/2	1 1/2
Number of Teeth...	4	4	6	6	6

Special cutters also furnished to specifications.

Standard Single Angle Milling Cutters

High Speed Steel

No. 712—Right Hand

No. 712L—Left Hand



Left Hand

Angular cutters will be furnished either right or left hand with included angle of 45° or 60°.

Cutters having dimensions other than those listed are special and subject to special prices.

Diameter.....inches	2 1/2	2 3/4	3
Each.....	\$6.89	7.52	8.36
Thickness.....inches	1/2	1/2	1/2
Hole.....inches	7/8	1	1 1/4

No. 716 Standard Double Angle Cutters

High Speed Steel



Double angle cutters will be furnished with an included angle of 45°, 60°, or 90°.

Cutters having dimensions other than those listed are special and subject to special prices.

Diameter.....inches	2 3/4
No. 716.....each	\$7.52
Thickness.....inches	1/2
Hole.....inches	1

No. 720 Standard Convex Cutters

For Milling Half Circles—High Speed Steel

With formed teeth that can be sharpened without changing their outline. Cutters having dimensions other than those listed are special and subject to special prices.

Diameter Circle—Inches	Diameter Circle—Inches	Hole—Inches	Each
2 1/4	1/8	1	\$7.52
2 1/4	3/16	1	7.52
2 1/2	1/4	1	8.86
2 3/4	5/16	1	9.80
2 3/4	3/8	1	10.26
3	7/16	1	11.62
3	1/2	1	12.19
3 1/2	5/8	1 1/4	15.27
3 3/4	3/4	1 1/4	17.67
4	7/8	1 1/4	20.29
4 1/4	1	1 1/4	23.25

No. 721 Standard Concave Cutters

For Milling Half Circles—High Speed Steel

With formed teeth that can be sharpened without changing their outline. Cutters having dimensions other than those listed are special and subject to special prices.

Diameter Circle—Inches	Diameter Circle—Inches	Hole—Inches	Each
2 1/4	1/8	1	\$7.86
2 1/4	3/16	1	8.55
2 1/2	1/4	1	9.80
2 3/4	5/16	1	11.85
2 3/4	3/8	1	11.85
3	7/16	1	13.68
3	1/2	1	14.47
3 1/2	5/8	1 1/4	18.24
3 3/4	3/4	1 1/4	22.00
4	7/8	1 1/4	25.19
4 1/4	1	1 1/4	29.98

Standard Single Corner-Rounding Cutters

High Speed Steel

No. 722—Right Hand

No. 722L—Left Hand



Right Hand

With formed teeth that can be sharpened without changing the outline.

Can be furnished in right or left hand single style. **Specify** whether right or left hand cutters are wanted.

Cutters with dimensions other than listed are special, subject to special prices.

Diameter.....inches	2 1/2	3	3 3/4	4 1/4	4 1/4
Each.....	\$8.66	11.62	16.53	20.52	23.25
Radius Circle.....inches	1/8	1/4	3/8	1/2	5/8
Hole.....inches	1	1	1 1/4	1 1/4	1 1/4

No. 735 Standard Involute Gear Cutters

High Speed Steel

Standard Hole—Standard Keyway



Cutter can be sharpened without changing its outline.
Furnished with 14½° pressure angle.
Cutters having dimensions other than listed are special
and subject to special prices.

Diametral Pitch	Each	Diam. Inches	Hole Inches	Diametral Pitch	Each	Diam. Inches	Hole Inches
1¾	\$68.85	6½	1¾	14	\$7.86	2½	7⁄8
2	50.73	5¾	1½	16	7.86	2½	7⁄8
2½	45.60	5¾	1½	18	7.06	2	7⁄8
3	28.61	4¾	1¼	20	7.06	2	7⁄8
4	21.88	4¼	1¼	22	7.06	2	7⁄8
5	17.67	3¾	1¼	24	6.84	1¾	7⁄8
6	14.02	3½	1	26	6.61	1¾	7⁄8
7	12.19	2¾	1	28	6.61	1¾	7⁄8
8	11.62	2¾	1	30	6.61	1¾	7⁄8
9	10.26	2¾	1	32	6.61	1¾	7⁄8
10	9.34	2¾	7⁄8	36	6.61	1¾	7⁄8
11	9.00	2¾	7⁄8	40	6.61	1¾	7⁄8
12	8.20	2¼	7⁄8	48	6.61	1¾	7⁄8

Standard Involute Gear Cutters

For Teeth of Gear Wheels

All gears of same pitch cut with these cutters will interchange. Cutters can be sharpened by grinding the faces of the teeth without changing their outline.

Each cutter is marked with number, diametral pitch and number of teeth for which it is adapted.

Eight cutters made for each pitch, as follows:

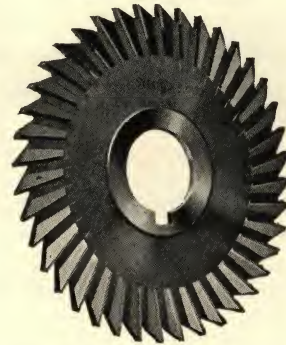


No.	Range, Teeth
1	135 to Rack
2	55 to 134
3	35 to 54
4	26 to 34
5	21 to 25
6	17 to 20
7	14 to 16
8	12 to 13

No. 703 Standard Metal Slitting Saws

With Side Chip Clearance

High Speed Steel

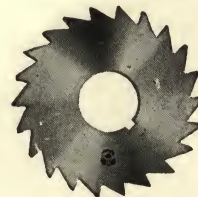


Saws of this type resemble side mills and are adapted for milling deep cuts on account of having side clearance.

Diam. In.	Width In.	Hole In.	Each	Diam. In.	Width In.	Hole In.	Each
2½	1⁄16	7⁄8	\$4.94	5	1⁄8	1	\$9.88
	3⁄32	7⁄8	4.84		1⁄8	1¼	9.88
	7⁄8	7⁄8	4.84		3⁄32	1	10.16
3	1⁄16	1	5.79		3⁄16	1	10.64
	3⁄32	1	5.70	6	1⁄16	1	11.40
	1⁄8	1	5.70		3⁄32	1	12.16
	5⁄32	1	5.79		1⁄8	1	12.44
4	1⁄16	1	7.50		1⁄8	1¼	12.44
	3⁄32	1	7.50		3⁄16	1	14.06
	1⁄8	1	7.67		3⁄16	1¼	14.06
	5⁄32	1	7.88	8	1⁄8	1	25.55
	3⁄16	1	8.17		1⁄8	1¼	25.55
5	1⁄16	1	9.31		3⁄16	1¼	27.55
	3⁄32	1	9.59	..	..	..	.....

No. 724 Standard Metal Slitting Saws

High Speed Steel



Metal slitting cutters are ground concave on the sides for clearance.

Cutters having dimensions other than listed are special and subject to special prices.

Diam. Inches	Thick. Inches	Hole Inches	Each	Diam. Inches	Thick. Inches	Hole Inches	Each
2½	1⁄32	7⁄8	\$2.66	5	1⁄16	1	\$5.51
	3⁄64	7⁄8	2.66		3⁄32	1	5.98
	1⁄16	7⁄8	2.66		1⁄8	1	6.27
	3⁄32	7⁄8	2.66		1⁄8	1¼	6.27
	1⁄8	7⁄8	2.75		5⁄32	1	6.65
3	1⁄32	1	3.13		3⁄16	1	7.03
	3⁄64	1	3.13	6	1⁄16	1	6.93
	1⁄16	1	3.23		3⁄32	1	7.98
	3⁄32	1	3.23		1⁄8	1	8.17
	1⁄8	1	3.32		1⁄8	1¼	8.17
	5⁄32	1	3.51		3⁄16	1	9.88
4	1⁄32	1	4.08		3⁄16	1¼	9.88
	3⁄64	1	4.18	8	1⁄8	1	16.62
	1⁄16	1	4.27		1⁄8	1¼	16.62
	3⁄32	1	4.46		3⁄16	1¼	18.81
	1⁄8	1	4.75
	5⁄32	1	4.94
	3⁄16	1	5.22

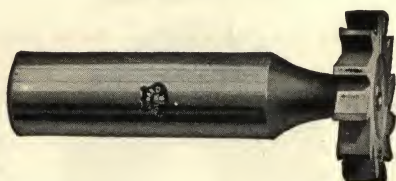
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No. 774 Standard Woodruff Keyseat Cutters

High Speed Steel



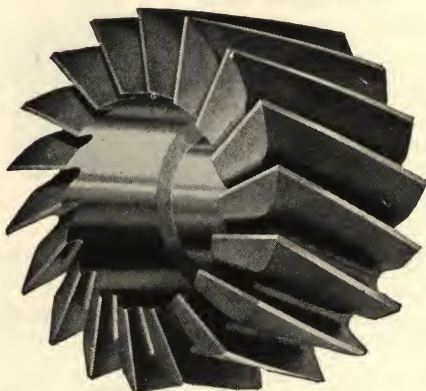
Regularly furnished right hand only. All sizes have shanks 1/2-inch in diameter.

Left-hand cutters or cutters having dimensions other than listed are special and subject to special prices.

No.	Each	Diam. In.	Width In.	Lgth. Over-all In.	No.	Each	Diam. In.	Width In.	Lgth. Over-all In.
1	\$2.92	1/2	1/16	2 1/16	A	\$3.55	7/8	1/4	2 1/4
2	2.92	1/2	3/32	2 3/32	15	3.97	1	1/4	2 1/4
4	2.92	5/8	3/32	2 3/32	17	4.38	1 1/8	1/4	2 1/4
3	2.92	1/2	1/8	2 1/8	18	4.38	1 1/8	1/4	2 1/4
5	2.92	5/8	1/8	2 1/8	19	4.80	1 1/4	3/16	2 3/16
7	3.23	3/4	1/8	2 1/8	20	4.80	1 1/4	1/2	2 3/2
6	2.92	5/8	5/32	2 5/32	21	4.80	1 1/4	1/4	2 1/4
61	2.92	5/8	9/32	2 9/32	22	5.22	1 3/8	1/4	2 1/4
8	3.23	3/4	5/32	2 5/32	24	5.74	1 1/2	1/4	2 1/4
91	3.23	3/4	1/4	2 1/4	B	4.18	1	5/16	2 5/16
10	3.55	7/8	3/32	2 3/32	C	4.59	1 1/8	3/16	2 3/16
9	3.23	3/4	3/16	2 3/16	D	5.12	1 1/4	5/16	2 5/16
11	3.55	7/8	3/16	2 3/16	23	5.64	1 3/8	5/16	2 5/16
12	3.55	7/8	7/32	2 7/32	25	6.16	1 1/2	5/16	2 5/16
13	3.97	1	7/32	2 7/32	E	5.12	1 1/4	3/8	2 3/8
14	3.97	1	7/32	2 7/32	F	5.64	1 3/8	3/8	2 3/8
152	4.38	1	3/8	2 3/8	G	6.16	1 1/2	3/8	2 3/8
16	4.38	1 1/8	3/16	2 3/16	...	...	...	...	...

No. 826 Standard Shell End Mills

Heavy Duty—High Speed Steel



Regularly furnished with spiral flute, right or left hand. Hand of spiral is same as hand of cut.

In ordering, state whether right or left hand mills are wanted.

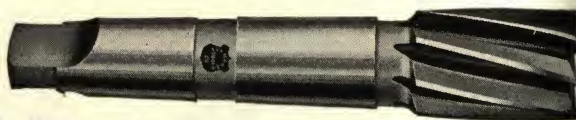
Right hand mills furnished unless otherwise specified.

Diameter Inches	Each	Length Cut Inches	Hole Inches	DRIVING SLOTS INCHES	
				Width	Depth
1 1/4	\$5.49	1	1 1/2	1/4	5/32
1 1/2	6.10	1 1/8	1 1/2	1/4	5/32
1 3/4	6.81	1 1/4	3/4	3/16	3/16
2	7.83	1 3/8	3/4	5/16	3/16
2 1/4	9.15	1 1/2	1	3/8	7/32
2 1/2	10.88	1 5/8	1	3/8	7/32
2 3/4	12.31	1 5/8	1	3/8	7/32
3	14.44	1 3/4	1 1/4	1/2	9/32
3 1/2	19.53	1 7/8	1 1/4	1/2	9/32
4	25.94	2 1/4	1 1/2	5/8	3/8
4 1/2	34.18	2 1/4	1 1/2	5/8	3/8
5	40.73	2 1/4	1 1/2	5/8	3/8
5 1/2	46.73	2 1/4	2	3/4	7/16
6	55.72	2 1/4	2	3/4	7/16

No. 762 Standard Spiral Fluted End Mills

With Brown & Sharpe Taper Shanks

High Speed Steel



No. 762-Right Hand

No. 762L-Left Hand

Spiral flutes same direction as cut.

Regularly furnished either right or left hand.

End mills having dimensions other than listed are special and subject to special prices.

When ordering state whether right or left hand mills are wanted.

Shanks No. 5 have no tang.

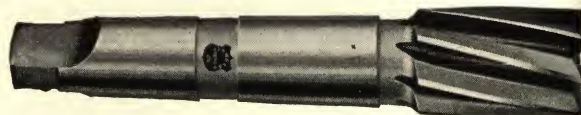
End mills with No. 7 or No. 9 shanks are furnished regularly with tang end.

Diameter Inches	Each	Length Overall Inches	Length Cut Inches	No. of Taper
1/4	\$3.35	2 13/16	5/8	5
5/16	3.35	2 7/8	1 1/16	5
3/8	3.35	2 15/16	3/4	5
7/16	3.56	3 1/16	7/8	5
1/2	3.56	3 1/8	1 5/16	5
1/2	5.18	4 13/16	1 5/16	7
9/16	5.18	5	1	7
5/8	5.39	5 1/8	1 1/8	7
3/4	5.39	5 1/4	1 1/4	7
7/8	6.20	5 7/16	1 7/16	7
1	7.12	5 5/8	1 5/8	7
1 1/8	9.46	7	1 3/4	9
1 1/4	10.68	7 1/4	2	9
1 1/2	13.53	7 1/2	2 1/4	9
1 3/4	16.89	7 3/4	2 1/2	9
2	21.36	8	2 3/4	9

No. 763 Standard Spiral Fluted End Mills

With Standard Taper Shanks

High Speed Steel



Furnished in right hand with spiral the same direction as cut.

End mills having dimensions other than listed and left-hand end mills are special and subject to special prices.

Diameter Inches	Each	Length Overall Inches	Length Cut Inches	No. of Taper
1/4	\$3.25	3 1/2	5/8	1
5/16	3.25	3 3/16	1 1/16	1
3/8	3.35	3 5/8	3/4	1
7/16	3.35	3 3/4	7/8	1
1/2	3.45	3 13/16	1 5/16	1
1/2	4.88	4 1/16	1 5/16	2
5/8	4.98	4 5/8	1 1/8	2
3/4	4.98	4 3/4	1 1/4	2
3/4	7.12	5 9/16	1 3/4	3
7/8	5.79	4 15/16	1 7/16	2
7/8	7.12	5 3/4	1 7/16	3
1	6.71	5 1/8	1 5/8	2
1	7.42	5 15/16	1 5/8	3
1 1/8	8.54	6 1/16	1 3/4	3
1 1/4	9.76	6 5/16	2	3

No. 770 Standard End Mills
Spiral Fluted—With Straight Shanks
High Speed Steel



Spiral same direction as cut.
Furnished right hand.

Diam. In.	Each	Lgth. Over- all In.	Lgth. Cut In.	Diam. In.	Each	Lgth. Over- all In.	Lgth. Cut In.
1/8	\$1.42	1 1/4	3/16	3/8	\$2.13	1 13/16	3/4
5/32	1.52	1 1/4	3/16	7/16	2.34	2 3/16	3/4
3/16	1.72	1 3/8	1/2	1/2	2.54	2 1/4	7/8
7/32	1.83	1 3/8	9/16	9/16	2.74	2 3/16	1
1/4	1.83	1 11/16	5/8	5/8	3.05	2 1/2	1 1/8
5/16	1.93	1 3/4	11/16	3/4	3.56	2 5/8	1 1/4

**No. 766 Standard 2-Lipped Slotting
End Mills**
High Speed Steel—Spiral Flutes
Straight Shank



Furnished with right hand cut only.
Right-hand spiral flutes.
Diameter of shank is same as diameter of cut.

Diameter... In.	1/4	5/16	3/8	7/16	1/2	5/8	3/4
Each.....	\$1.93	2.13	2.23	2.44	2.84	3.35	3.66
Lgth. Cut... In.	3/8	15/32	9/16	21/32	3/4	15/16	1 1/8
Over. Lgth... In.	1 1/16	1 1/16	1 1/8	2	2 1/16	2 5/16	2 1/2

Standard 2-Lipped Slotting End Mills
With Brown & Sharpe Taper Shanks
High Speed Steel

No. 773 Straight Fluted—Right Hand
No. 773L Straight Fluted—Left Hand



No. 773S Spiral Fluted—Right Hand
No. 773SL Spiral Fluted—Left Hand

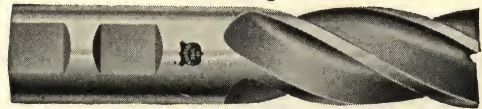


Regularly furnished either right or left hand. With straight or spiral flutes. End mills with spiral flutes have cut same direction as spiral.

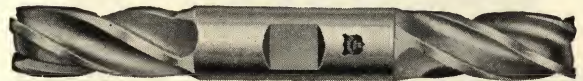
Taper shanks No. 5 have no tang. Taper shanks Nos. 7 and 9 have tang.

Diameter Inches	Each	Length Overall Inches	Length Cut Inches	No. of Taper
1/4	\$3.45	2 9/16	3/8	5
1/4	5.39	4 3/8	3/8	7
5/16	3.45	2 21/32	15/32	5
5/16	5.39	4 15/32	15/32	7
3/8	5.49	4 9/16	9/16	7
7/16	5.49	4 21/32	21/32	7
1/2	5.49	4 3/4	3/4	7
5/8	5.69	4 15/16	15/16	7
3/4	5.90	5 1/8	1 1/8	7
7/8	6.81	5 5/16	1 5/16	7
1	10.07	6 3/4	1 1/2	9
1 1/4	11.80	7 1/8	1 7/8	9
1 1/2	14.85	7 1/2	2 1/4	9

Standard Fast Spiral End Mills
High Helix Type—With Weldon Shanks
High Speed Steel
No. 767 Single End



No. 767A Double End



Furnished right hand with spiral the same direction as cut.

Shanks flatted for set-screw.

Four flutes up to and including 1 inch diameter, except No. 767 3/16, 7/8 and 1 inch diameter with 5/8 inch shank. These latter end mills over 1 inch diameter have six flutes.

Dimensions not listed are special.

No. 767 Single End				No. 767A Double End			
Diam. In.	Each	Lgth. Over- all In.	Lgth. Cut In.	Diam. In.	Each	Lgth. Over- all In.	Lgth. Cut In.
1/8	\$1.85	2 3/8	3/8	1/8	\$2.92	3 1/16	3/8
3/16	1.85	2 3/8	1/2	5/32	2.92	3 1/8	3/8
1/4	1.85	2 7/8	5/8	3/16	2.92	3 1/4	1/2
5/16	1.85	2 1/2	3/4	7/32	2.92	3 1/4	9/16
3/8	1.85	2 1/2	3/4	1/4	2.92	3 3/8	5/8
7/16	2.12	2 11/16	1	9/32	2.92	3 3/8	11/16
1/2	2.12	2 11/16	1	5/16	2.92	3 1/2	3/4
9/16	2.65	3 3/8	1 1/8	11/32	2.92	3 1/2	3/4
5/8	2.86	3 3/8	1 3/8	3/8	2.92	3 1/2	3/4
11/16	3.19	3 5/8	1 5/8	13/32	3.71	4 1/8	1
3/4	3.34	3 5/8	1 5/8	7/16	3.71	4 1/8	1
5/8	3.02	3 3/4	1 5/8	15/32	3.71	4 1/8	1
11/16	3.19	3 3/4	1 5/8	1/2	3.71	4 1/8	1
3/4	3.34	3 3/4	1 5/8	9/16	4.56	5	1 3/8
13/16	3.93	4	1 7/8	5/8	4.56	5	1 3/8
7/8	3.93	4	1 7/8	11/16	5.57	5 5/8	1 5/8
1	4.30	4	1 7/8	3/4	5.57	5 5/8	1 5/8
7/8	4.04	4 1/8	1 7/8	13/16	6.64	6 1/8	1 7/8
1	4.46	4 1/8	1 7/8	7/8	6.64	6 1/8	1 7/8
1 1/8	6.21	4 1/4	2	1	7.70	6 3/8	1 7/8
1 1/4	6.80	4 1/4	2				
1	4.68	4 1/2	2				
1 1/8	6.48	4 1/2	2				
1 1/4	7.02	4 1/2	2				
1 3/8	7.65	4 1/2	2				
1 1/2	8.51	4 1/2	2				

Standard Spur and Helical Gear Hobs
High Speed Steel

Spur gear hobs can be used for hobbing both spur gears and helical gears. Right-hand hobs will cut both right-hand and left-hand helical gears. It is recommended, however, that a right-hand hob be used to cut a right-hand helical gear and a left-hand hob be used to cut a left-hand helical gear.

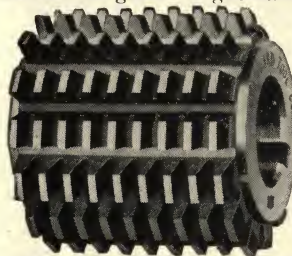
Spur gear roughing hobs can be furnished with either ground or unground forms in single or multiple thread.

Hobs to cut any special form of gear to run with gears cut by rotary cutters can also be furnished.

Spur gear hobs with thread angles less than 3°—30' have straight gashes. Hobs with thread angles, 3°—30' and larger, have spiral gashes.

Hobs with thread angles smaller than 3°—30' can be made with spiral gashes when so specified.

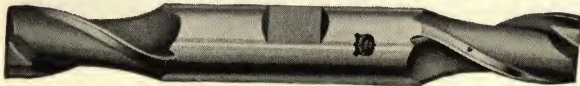
Unless otherwise specified, hobs will be furnished with unground form, 14 1/2° pressure angle, single thread, right-hand, **high speed** steel.



Standard 2-Fluted Fast Spiral End Mills
High Speed Steel
Weldon Shanks



No. 768, Single End



No. 768A, Double End

Furnished right or left hand with spiral same direction as cut.

Shanks flatted for set-screw.

Dimensions not listed are special.

—No. 768, Single End—					—No. 768A, Double End—				
Diam. In.	Shank Diam. In.	Lgth. Over-all In.	Lgth. Cut In.	Each	Diam. In.	Shank Diam. In.	Lgth. Over-all In.	Lgth. Cut In.	Each
1/8	3/8	2 5/16	3/8	\$2.01	3/8	3 1/16	3 3/8	3/8	\$2.92
5/32	3/8	2 5/16	7/16	2.01	3/8	3 1/8	3 7/16	7/16	2.92
3/16	3/8	2 5/16	1/2	2.01	3/8	3 1/8	3 7/16	1/2	2.92
7/32	3/8	2 5/16	9/16	2.01	3/8	3 1/8	3 7/16	9/16	2.92
1/4	3/8	2 5/16	5/8	2.01	3/8	3 1/8	3 7/16	5/8	2.92
9/32	3/8	2 5/16	3/4	2.01	3/8	3 1/8	3 7/16	3/4	2.92
5/16	3/8	2 5/16	7/8	2.01	3/8	3 1/8	3 7/16	7/8	2.92
11/32	3/8	2 5/16	15/16	2.01	3/8	3 1/8	3 7/16	15/16	2.92
3/8	3/8	2 5/16	1 1/16	2.28	3/8	3 1/8	3 7/16	1 1/16	3.71
13/32	3/8	2 5/16	1 1/8	2.28	3/8	3 1/8	3 7/16	1 1/8	3.71
7/16	3/8	2 5/16	1 1/4	2.28	3/8	3 1/8	3 7/16	1 1/4	3.71
15/32	3/8	2 5/16	1 3/8	2.28	3/8	3 1/8	3 7/16	1 3/8	3.71
1/2	3/8	2 5/16	1 7/8	2.55	3/8	3 1/8	3 7/16	1 7/8	4.56
5/8	3/8	2 5/16	2 1/8	2.81	3/8	3 1/8	3 7/16	2 1/8	4.56
11/16	3/8	2 5/16	2 3/8	3.08	3/8	3 1/8	3 7/16	2 3/8	4.56
13/16	3/8	2 5/16	2 5/8	3.19	3/8	3 1/8	3 7/16	2 5/8	4.56
7/8	3/8	2 5/16	2 7/8	3.34	3/8	3 1/8	3 7/16	2 7/8	4.56
1	3/8	2 5/16	3	3.34	3/8	3 1/8	3 7/16	3	4.56
1 1/8	3/8	2 5/16	3 1/8	3.50	3/8	3 1/8	3 7/16	3 1/8	4.56
1 1/4	3/8	2 5/16	3 1/4	4.14	3/8	3 1/8	3 7/16	3 1/4	4.56
1 1/2	3/8	2 5/16	3 1/2	4.14	3/8	3 1/8	3 7/16	3 1/2	4.56
1 3/4	3/8	2 5/16	3 3/4	4.56	3/8	3 1/8	3 7/16	3 3/4	4.56
2	3/8	2 5/16	4	4.93	3/8	3 1/8	3 7/16	4	4.56
2 1/8	3/8	2 5/16	4 1/8	6.90	3/8	3 1/8	3 7/16	4 1/8	7.70
2 1/4	3/8	2 5/16	4 1/4	7.27	3/8	3 1/8	3 7/16	4 1/4	7.70
2 1/2	3/8	2 5/16	4 1/2	7.54	3/8	3 1/8	3 7/16	4 1/2	7.70
2 3/4	3/8	2 5/16	4 3/4	8.24	3/8	3 1/8	3 7/16	4 3/4	7.70
3	3/8	2 5/16	5	9.14	3/8	3 1/8	3 7/16	5	7.70

No. 776 Standard Long, 2-Flute Fast Spiral Single-End End Mills
High Speed Steel
High Helix Type—Weldon Shanks



Made only with right-hand cut and right-hand spiral flutes. Shanks flatted for set-screw drive.

Cut Diam. In.	Each	Shank Diam. In.	Lgth. below Shank In.	LENGTH—INCHES—Over-all	Cut Diam. In.	Each	Shank Diam. In.	Lgth. below Shank In.	LENGTH—INCHES—Over-all
1/4	\$2.38	3/8	1 1/2	5/8 3 1/16	5/8	\$3.87	3/4	2 3/4	1 3/8 4 5/8
5/16	2.55	3/8	1 3/4	3/4 3 3/16	3/4	4.89	3/4	3 3/8	1 5/8 5 3/8
3/8	2.55	3/8	1 3/4	3/4 3 3/16	1	7.70	1	5	2 1/2 7 1/4
1/2	3.19	1/2	2 1/4	1 4	...	...	...	...	...

No. 121 Standard Hardened and Ground Steel Mandrels

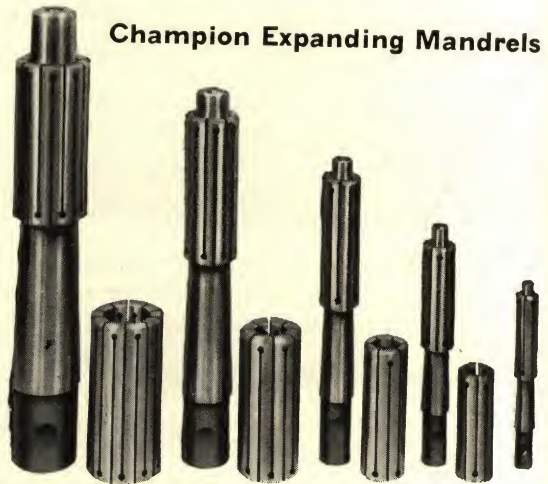


Lathe mandrels are slightly tapered to facilitate their entering standard size holes.

Diameter Inches	Each	Length Overall Inches	Diameter Inches	Each	Length Overall Inches
1/8	\$2.28	2 1/2	1 3/4	\$6.51	7 3/4
5/32	2.42	3	1 1/4	6.51	8
3/16	2.42	3	1 5/16	7.76	8 1/4
7/32	2.48	3 3/4	1 3/8	7.76	8 1/2
1/4	2.48	3 3/4	1 7/16	9.08	8 3/4
9/32	2.63	4	1 1/2	9.08	9
5/16	2.63	4	1 9/16	10.40	9 1/4
11/32	2.69	4 1/4	1 5/8	10.40	9 1/2
3/8	2.69	4 1/4	1 11/16	11.64	9 3/4
13/32	2.77	4 1/2	1 3/4	11.64	10
7/16	2.77	4 1/2	1 13/16	12.96	10 1/4
15/32	2.90	5	1 7/8	12.96	10 1/2
1/2	2.90	5	1 5/8	14.56	10 3/4
9/16	3.04	5 1/4	2	14.56	11
5/8	3.04	5 1/2	2 1/8	16.22	11 1/2
11/16	3.32	5 3/4	2 1/4	17.82	12
3/4	3.32	6	2 3/8	19.41	12
13/16	3.95	6 1/4	2 1/2	21.08	12 1/2
7/8	3.95	6 1/2	2 5/8	23.57	12 1/2
15/16	4.64	6 3/4	2 3/4	25.93	13
1	4.64	7	2 7/8	28.29	13
1 1/16	5.54	7 1/4	3	30.85	13
1 1/8	5.54	7 1/2	....	....	....

All sizes and dimensions not listed are special and subject to special prices.

Champion Expanding Mandrels



Only two parts—taper arbor and flexible round sleeve. High grade steel, hardened. No jaws. Cannot distort or injure work. Thin tubes or bushings turned on it without distortion. Allows overhanging when surfacing, obviating liability of cutting into mandrel. Holds any length bore.

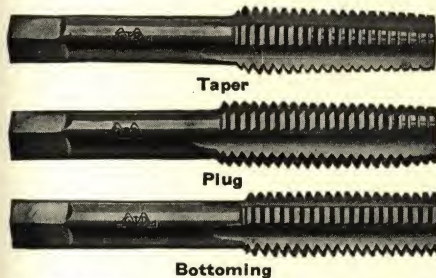
No.	Each	Range In.	Arb., Sleeve, In.	No.	Each	Range In.	Arb., Sleeve, In.
1	\$11.55	1/8 - 9/16	5 2 1/2	9	\$74.75	2 - 2 3/4	14 5 1/2
2	12.65	9/16 - 2 1/32	6 2 3/4	10	112.70	2 3/4 - 3 3/4	17 6
3	13.75	2 1/32 - 3/4	6 2 3/4	11	280.60	3 3/4 - 5	20 7
4	15.13	3/4 - 5/8	7 3 1/4	12	318.55	5 - 6 1/2	24 8
5	18.15	5/8 - 1	7 3 1/4	*12A	515.00	5 - 7 1/8	24 8
6	28.05	1 - 1 1/8	9 4	13	715.00	6 1/2 - 8	26 10
7	35.20	1 1/8 - 1 1/4	9 4	14	985.00	8 - 9 1/2	26 10
8	44.00	1 1/4 - 2	11 1/2 5	....	....	....	....

Sizes 1 to 5 have 1 sleeve. Sizes 6 to 14 have 1 large and 1 small sleeve, necessary for maximum expansion. *Sleeves, 3. No. 500, Consisting of Nos. 1, 2, 3, 4 and 5, Sizes 1/2 to 1 Inch, Complete.....per set \$63.80

GTD Standard Hand Taps

High Speed Steel No. 5303 Commercial Ground Thread
No. 6303 Cut Thread
No. 7303 Precision Ground Thread

Carbon Steel No. 303



Sizes $\frac{1}{16}$ to $\frac{3}{8}$ inch have shanks full diameter of thread.

Sizes $\frac{7}{16}$ -inch and larger have shanks smaller than root diameter of thread. Left-hand taps are special.

High speed commercial ground thread furnished unless otherwise specified. If precision ground thread is wanted, specify limit number.

Carbon steel taps furnished with National or Whitworth form of thread in taper, plug, or bottoming style at regular prices.

High Speed Steel

Diam. Tap In.	Nos. 5303 and 6303 Each	No. 7303 Each	THREADS PER INCH			No. Flutes	Lgth. Over-all, In.
			N.C.	N.F.	N.S.		
$\frac{1}{4}$	\$.85	\$.85	20	28	..	4	$2\frac{1}{2}$
$\frac{5}{16}$	.95	.95	18	24	..	4	$2\frac{3}{8}$
$\frac{3}{8}$	1.10	1.10	16	24	..	4	$2\frac{1}{2}$
$\frac{7}{16}$	1.30	1.30	14	20	..	4	$3\frac{1}{8}$
$\frac{1}{2}$	1.55	1.55	13	20	..	4	$3\frac{3}{8}$
$\frac{9}{16}$	1.85	1.85	12	18	..	4	$3\frac{1}{2}$
$\frac{5}{8}$	2.20	2.20	11	18	..	4	$3\frac{3}{4}$
$\frac{11}{16}$	2.60	..	..	..	11, 16	4	$4\frac{1}{8}$
$\frac{3}{4}$	3.10	3.10	10	16	..	4	$4\frac{1}{4}$
$\frac{7}{8}$	4.30	4.30	9	14	..	4	$4\frac{1}{2}$
1	5.75	5.75	8	14	..	4	$5\frac{1}{8}$
$\frac{11}{8}$	7.45	..	7	12	..	4	$5\frac{1}{4}$
$\frac{13}{8}$	9.55	..	7	12	..	4	$5\frac{1}{2}$
$\frac{15}{8}$	11.95	..	6	12	..	4	$6\frac{1}{4}$
$\frac{17}{8}$	14.75	..	6	12	..	4	$6\frac{3}{8}$
10 Mm. 1 Metric Commercial Ground Thread Spark Plug Tap.....each \$1.30							
14 Mm. 1.25 Metric Commercial Ground Thread Spark Plug Tap.....each 1.85							
18 Mm. 1.50 Metric Commercial Ground Thread Spark Plug Tap.....each 3.10							

Carbon Steel

Diam. Tap Inches	Each	Per Set	THREADS PER INCH			Whitworth Std.	Brit. Std.	No. Fine Flutes	Lgth. Over-all, In.
			N.C.	N.F.	N.S.				
$\frac{1}{16}$	\$.50	\$1.50	..	..	64	60	..	3	$1\frac{1}{8}$
$\frac{3}{32}$	.40	1.20	..	..	48	48	..	3	$1\frac{1}{4}$
$\frac{1}{8}$	.35	1.05	..	..	40	40	..	3	$1\frac{1}{2}$
$\frac{5}{32}$	.35	1.05	..	..	32, 36	32	..	4	$2\frac{1}{16}$
$\frac{3}{16}$	.40	1.20	..	..	24, 32	24	32	4	$2\frac{3}{8}$
$\frac{7}{32}$	.45	1.35	..	..	24, 32	24	28	4	$2\frac{3}{8}$
$\frac{1}{4}$	.45	1.35	20	28	24, 32	20	26	4	$2\frac{1}{2}$
$\frac{5}{16}$	.50	1.50	18	24	32	18	22	4	$2\frac{3}{4}$
$\frac{3}{8}$	.55	1.65	16	24	..	16	20	4	$2\frac{1}{2}$
$\frac{7}{16}$	.60	1.80	14	20	..	14	18	4	$3\frac{1}{8}$
$\frac{1}{2}$	.70	2.10	13	20	12	12	16	4	$3\frac{3}{8}$
$\frac{9}{16}$	.80	2.40	12	18	..	12	16	4	$3\frac{1}{2}$
$\frac{5}{8}$	.90	2.70	11	18	..	11	14	4	$3\frac{3}{4}$
$\frac{11}{16}$	1.05	3.15	..	..	11, 16	11	14	4	$4\frac{1}{8}$
$\frac{3}{4}$	1.20	3.60	10	16	..	10	12	4	$4\frac{1}{4}$
$\frac{7}{8}$	1.60	4.80	9	14	..	9	11	4	$4\frac{1}{2}$
1	2.00	6.00	8	14	..	8	10	4	$5\frac{1}{8}$
$\frac{11}{8}$	2.25	6.75	7	12	..	7	9	4	$5\frac{1}{4}$
$\frac{13}{8}$	2.60	7.80	7	12	..	7	9	4	$5\frac{1}{2}$
$\frac{15}{8}$	3.00	9.00	6	12	..	6	8	4	$6\frac{1}{4}$
$\frac{17}{8}$	3.50	10.50	6	12	..	6	8	4	$6\frac{3}{8}$
$\frac{19}{8}$	4.20	12.60	..	..	$5\frac{1}{2}$	..	6	4	$6\frac{1}{2}$
$\frac{21}{8}$	5.00	15.00	5	..	5	..	6	4	$7\frac{1}{8}$
$\frac{23}{8}$	5.80	17.40	..	..	5	..	6	4	$7\frac{3}{8}$
2	6.70	20.10	$4\frac{1}{2}$	..	$4\frac{1}{2}$	..	6	4	$7\frac{7}{8}$
10 Mm. 1 Metric Spark Plug Tap.....each \$5.55									
14 Mm. 1.25 Metric Spark Plug Tap.....each .80									
18 Mm. 1.50 Metric Spark Plug Tap.....each 1.05									

GTD 3-Fluted Hand Taps

High Speed Steel No. 5303 Commercial Ground Thread
No. 6303 Cut Thread
No. 7303 Precision Ground Thread

Carbon Steel No. 303



Furnished with American National form of thread in plug or bottoming style. Hand taps to and including $\frac{3}{8}$ -inch have shanks full diameter of thread. Taps $\frac{1}{16}$ -inch and larger have shanks smaller than the root diameter of the thread.

High speed cut thread taps furnished unless ground thread are specified. Commercial ground thread taps furnished unless precision ground thread taps are specified. If precision ground thread taps are wanted, specify limit number.

Taper taps are special. Left-hand taps are special.

Diam. Tap In.	High Speed Each	Carbon Each	THRDS. PER INCH		Length Thread In.	Length Overall In.	Diam. Shank In.	Size Square In.
			N.C.	N.F.				
$\frac{1}{4}$	\$.85	\$.45	20	28	1	$2\frac{1}{2}$	.255	.191
$\frac{5}{16}$	.95	.50	18	24	$1\frac{1}{8}$	$2\frac{3}{8}$	.318	.238
$\frac{3}{8}$	1.10	.55	16	24	$1\frac{1}{4}$	$2\frac{1}{2}$	.381	.286
$\frac{7}{16}$	1.30	..	14	20	$1\frac{1}{2}$	$3\frac{1}{8}$	.429	.323
$\frac{1}{2}$	1.55	..	13	20	$1\frac{3}{4}$	$3\frac{3}{8}$	.480	.367

No. 309 GTD 4-Fluted Serial Hand Taps Carbon Steel



American National Coarse form of thread.

Sizes to

and including $\frac{3}{8}$ -inch have shanks full diameter of thread. Taps $\frac{1}{16}$ -inch and larger have shanks smaller than the root diameter of the thread.

Set has Nos. 1, 2 and 3 taps. No. 1 first used to rough out thread, then followed by No. 2, which is larger in pitch diameter and o.d. and cuts work fuller; No. 2 finishes thread.

Sizes and dimensions not listed are special. Left-hand taps are special.

Diam. Tap Inches	High Speed Each	Carbon Each	Per Set	THRDS. PER INCH	Diam. Shank In.	Size Square In.	Length Thread In.	Length Overall In.
				N.C.				
$\frac{1}{4}$	\$.45	\$1.35	20	28	.255	.191	1	$2\frac{1}{2}$
$\frac{5}{16}$	.50	1.50	18	24	.318	.238	$1\frac{1}{8}$	$2\frac{3}{8}$
$\frac{3}{8}$	.55	1.65	16	24	.381	.286	$1\frac{1}{4}$	$2\frac{1}{2}$
$\frac{7}{16}$	.60	1.80	14	20	.429	.323	$1\frac{1}{2}$	$3\frac{1}{8}$
$\frac{1}{2}$	.70	2.10	13	20	.480	.367	$1\frac{3}{4}$	$3\frac{3}{8}$
$\frac{9}{16}$	.80	2.40	12	18	.525	.429	$1\frac{1}{2}$	$3\frac{1}{2}$
$\frac{5}{8}$	.90	2.70	11	18	.590	.480	$1\frac{3}{4}$	$3\frac{3}{4}$
$\frac{3}{4}$	1.20	3.60	10	16	.697	.590	2	$4\frac{1}{4}$
$\frac{7}{8}$	1.60	4.80	9	14	.800	.697	$2\frac{1}{2}$	$4\frac{1}{2}$
1	2.00	6.00	8	14	..	.800	$2\frac{1}{2}$	$5\frac{1}{8}$

GTD Nut Taps

No. 5306 High Speed Steel Commercial Ground Thread
No. 306 Carbon Steel



For production in small quantities; used extensively for tapping operations in bolt cutters, drill presses, etc.

N. C. threads furnished unless otherwise specified.

Sizes and dimensions not listed are special.

Left-hand taps are special.

Diam. Tap In.	High Speed Each	Carbon Each	THREADS PER INCH			LENGTH THREAD INCHES		No. Flutes	Lgth. Over-all In.
			N.C.	N.F.	*Whit. Std.	N.C. Std.	N.F. Std.		
$\frac{1}{4}$	\$1.50	\$.60	20	28	20	$1\frac{1}{8}$	$1\frac{1}{4}$	4	5
$\frac{5}{16}$	1.70	.70	18	24	18	$1\frac{1}{16}$	$1\frac{3}{8}$	4	$5\frac{1}{2}$
$\frac{3}{8}$	2.00	.80	16	24	16	2	$1\frac{1}{2}$	4	6
$\frac{7}{16}$	2.40	.90	14	20	14	$2\frac{3}{8}$	$1\frac{3}{4}$	4	$6\frac{1}{2}$
$\frac{1}{2}$	2.70	1.00	13	20	12	$2\frac{1}{2}$	$1\frac{7}{8}$	4	7
$\frac{5}{8}$	4.05	1.35	11	18	11	3	$2\frac{1}{4}$	4	8
$\frac{3}{4}$	5.65	1.85	10	16	10	$3\frac{1}{4}$	$2\frac{1}{2}$	4	9
$\frac{7}{8}$	7.90	2.45	9	14	9	$3\frac{3}{8}$	$2\frac{3}{4}$	4	10
1	10.55	3.15	8	14	8	4	3	4	11

*Whitworth Standard furnished in carbon steel only.

GTD Standard Machine Screw Taps

High Speed Steel

No. 6305—Cut Thread No. 5305—Com'l Grd. Thrd.
No. 7305—Precision Ground Thread

No. 305 Carbon Steel



Furnished with American National form of thread and standard number of flutes in taper, plug, or bottoming style at regular prices.

High speed steel commercial ground taps will be furnished unless otherwise specified. Precision ground thread is furnished in National coarse and National fine only. Pitch diameter limits are from basic to basic plus .0005 inch.

Left-hand taps are special.

Sizes and dimensions not listed are special.

Screw Gage No.	High Speed Cut and Com-mercial Ground Threads			Basic Major Diam. In.	THREADS PER INCH			No. of Flutes	Lgth. Thrd. In.	Lgth. Over-all In.
	Each	Each	Each		N.C.	N.F.	N.S.			
0	...	\$2.40	\$1.50	.060	..	80	..	2	5/16	15/8
1	...	2.20	.50	.073	64	72	56	2	3/8	1 1/16
2	...	2.05	.45	.086	56	64	..	3	7/16	1 3/4
3	\$.85	1.50	.40	.099	48	56	..	3	1/2	1 5/8
4	.70	1.30	.40	.112	40	48	32, 36	3	9/16	1 7/8
5	.70	1.30	.35	.125	40	44	..	3	5/8	1 5/8
6	.70	1.30	.35	.138	32	40	36	3	1 1/16	2
*8	.70	1.30	.35	.164	32	36	40	4	3/4	2 1/8
†10	.75	1.35	.40	.190	24	32	30	4	7/8	2 3/8
12	.80	1.40	.45	.216	24	28	32	4	1 5/16	2 3/8
14	.85	...	.45	.242	..	20, 24	4	1	2 1/2	2 1/2

*Three flutes optional in carbon steel N.C. thread only, in plug style, at regular prices.

†Three flutes optional in carbon steel N.C. and N.F. threads only, in plug style, at regular prices.

GTD Machine Screw Gun Taps

Two Flutes—Screw Gage Sizes

High Speed Steel: Plug Style No. 5301, Commercial Ground Thread
Bottoming Style No. 5302, Commercial Ground Thread
Plug Style No. 6301, Cut Thread
Plug Style No. 7301, Precision Ground Thread
Bottoming Style No. 7302, Precision Ground Thread

Carbon Steel: Plug Style No. 301



Plug Style

Recommended for tapping jobs in open or through holes, or in blind holes where there is sufficient room for chip collection at bottom. Bottoming style may be used under certain conditions for tapping blind holes to the bottom.

Plug style has spiral point which forces chip ahead of it and keeps thread clean. Bottoming style has a chip breaking action but does not force chips out ahead.

Standard in right hand American National and Whitworth form in plug style; American National only in bottoming style.

Nom. Size Screw Gage No.	High Speed Nos. 5301 and 6301			No. 301 Carbon Steel	THREADS PER INCH			Basic Major Diam. In.	LENGTH, In.	
	Each	Each	Each		N.C.	N.F.	N.S.		Full Thread	Over-all
3	\$.95	\$1.60	\$1.60	.48	56	..	..	.099	1 1/2	1 13/16
4	.80	1.40	.50	40	48	..	..	.112	9/16	1 7/8
4	.80	...	.50	..	..	36	..	.112	9/16	1 7/8
5	.80	1.40	.45	40	44	..	..	.125	5/8	1 5/8
6	.80	1.40	.45	32	40	..	..	.138	1 1/16	2
8	.80	1.40	.45	32	36	..	..	.164	3/4	2 1/8
10	.85	1.45	.50	24	32	..	..	.190	7/8	2 3/8
12	.90	1.50	.55	24	28	..	..	.216	1 5/16	2 3/8
14	.95	...	.55	..	..	20, 24	..	.242	1	2 1/2

GTD Gun Taps

Fractional Sizes

Plug

No. 5301 Commercial Ground Thread
No. 6301 Cut Thread
No. 7301 Precision Ground Thread
No. 301

Bottoming

No. 5302 Commercial Ground Thread
No. 7302 Precision Ground Thread

High Speed Steel

Carbon Steel

High Speed Steel



Standard in right-hand American National and Whitworth form in plug style and American National only in bottoming style. Sizes 3/16 and 3/8 inch have shanks full diameter of thread. Sizes 7/16 inch and larger have shanks smaller than root diameter of thread. Plug taps to and including 3/8 inch have external center on thread end.

Gun plug taps recommended on tapping jobs in open or through holes or in blind holes where there is sufficient room for chip collection at bottom of hole. Spiral point forces chip ahead of it in a long curling action which keeps thread clean and prevents chips from clogging in flutes.

Bottoming taps may be used under certain conditions for tapping blind holes to bottom. Have a chip breaking action and do not force chips out ahead as in plug style.

Standard package, one dozen.

Nominal Size In.	High Speed Nos. 5301, 6301, 7301, 7302			THREADS PER INCH			Lgth. Thrd. In.	Over-all Lgth. In.
	Each	Each	Each	N.C.	N.F.	†N.S. †B.S.W. †B.S.F.		
1/8	...	...	\$1.45	..	..	40	40	1 13/16
3/16	...	...	.50	..	..	24, 32	24	2 3/8
1/4	\$.95	\$.95	.55	20	28	..	20	2 1/2
5/16	1.05	1.05	.60	18	24	..	18	2 3/8
3/8	1.25	1.25	.70	16	24	..	16	2 3/4
*7/16	1.45	1.45	.75	14	20	..	14	3 1/4
*1	1.70	1.70	.85	13	20	..	12	3 3/8

*Plug style only.

†Pitches furnished in carbon steel only.

GTD Staybolt Taps

High Speed Steel No. 6316 Cut Thread
Carbon Steel No. 316



For tapping inner and outer sheets of tough boiler plate. Furnished with American National, V, or Whitworth form of thread at regular prices. Carbon steel taps furnished unless **high speed** are specified.

Taps have 12 threads per inch, and are made with 5 flutes. Length overall, 24 inches. Length taper thread, 6 inches. Length reamer, 7 inches. Length shank, 8 inches. Length of straight thread, 2 inches. Length of square, 1 inch.

Sizes and dimensions not listed, and left-hand taps are special.

Diam. inches	1	1 1/16	1 1/8	1 3/16	1 1/4
High Speed ... each	\$20.00	20.00	22.00	24.00	26.00
Carbon ... each	13.20	14.40	15.60	16.80	18.00
Diam. of Shank ... in.	.875	.937	1.000	1.062	1.125
Size of Square ... inches	5/8	5/8	3/4	3/4	3/4

Special

TAPS AND DIES

can be furnished

for all purposes

GTD Pulley Taps

High Speed Steel No. 5308 Commercial Ground Thread
Carbon Steel No. 308



For tapping set-screw and oil cup holes in hubs of pulleys. Of varying lengths to work in pulleys of different diameter since it has to tap through hole in the rim.

Shanks made full size of threads and serve as guide.

Furnished with National form of threads in plug style only. Has 4 flutes.

Sizes, dimensions, taper and bottoming taps, left-hand taps, and precision ground thread taps are special.

No. 5308 High Speed Steel

Diam. Tap In.	LENGTH, OVERALL, INCHES				Threads per Inch N.C.	Diam. Shank In.	Size Square In.	Lgth. Thread In.
	6	8	10	12				
1/4	\$1.70	\$2.25	....	....	20	.255	.191	1
5/16	1.70	2.30	....	....	18	.318	.238	1 1/8
3/8	2.00	2.60	\$3.20	....	16	.381	.286	1 1/4
7/16	2.10	2.75	3.50	....	14	.444	.333	1 1/2
1/2	2.25	3.10	3.75	\$4.40	13	.507	.380	1 3/4
5/8	2.90	4.10	5.00	5.80	11	.633	.475	1 3/4
3/4	....	....	6.10	7.10	10	.759	.569	2

No. 308 Carbon Steel

Diam. Tap In.	LENGTH, OVERALL, INCHES				Threads per Inch N.C.	Diam. Shank In.	Size Square In.	Lgth. Thread In.
	6	8	10	12				
1/4	\$.65	\$.70	....	....	20	.255	.191	1
5/16	.70	.75	....	....	18	.318	.238	1 1/8
3/8	.80	.85	\$.90	....	16	.381	.286	1 1/4
7/16	.85	.95	1.00	....	14	.444	.333	1 1/2
1/2	.95	1.05	1.10	\$1.15	13	.507	.380	1 3/4
5/8	1.10	1.35	1.40	1.50	11	.633	.475	1 3/4
3/4	....	....	1.85	1.95	10	.759	.569	2

GTD Straight Shank Tapper Taps

Fractional Sizes

High Speed Steel

No. 5307—Commercial Ground Thread

No. 307 Carbon Steel



Furnished with American National form of thread and plain round shanks.

When so specified, taper taps will be furnished with any of the following standard shanks at an additional charge based on the quantity ordered: Squared; Acme Type C; and National Interchangeable Ring Lock.

Left-hand taps are special.

Sizes and dimensions not listed are special.

Diam. Inches	High Speed		Carbon		THREADS PER INCH		No. of Flutes	LENGTH OF THREAD INCHES	
	12-In. Lgth. Each	15-In. Lgth. Each	12-In. Lgth. Each	15-In. Lgth. Each	N.C.	N.F.		N.C.	N.F.
1/4	\$3.25	....	.75	....	20	28	3	1 1/4	1
5/16	3.35	....	.85	....	18	24	3	1 3/8	1 1/8
3/8	3.80	....	.95	....	16	24	3	1 1/2	1 1/4
7/16	4.10	....	1.05	....	14	20	3	1 3/4	1 3/8
1/2	4.40	\$5.30	1.15	\$1.35	13	20	3	1 7/8	1 3/4
5/8	5.00	6.20	1.35	1.55	12	18	4	2 1/8	1 3/4
3/4	5.80	7.00	1.50	1.75	11	18	4	2 1/2	1 3/4
1	7.10	8.60	1.95	2.10	10	16	4	2 3/4	1 3/4
1 1/8	9.20	11.15	2.50	2.75	9	14	4	3 1/4	1 3/4
1 1/4	11.30	13.55	3.30	3.65	8	14	4	3 1/2	2 1/8
1 1/2	....	....	4.15	4.50	7	12	7	4	2 3/8
1 3/4	....	....	5.10	5.45	7	12	7	4	2 3/8
2	....	....	6.00	6.35	6	12	6	4	2 3/8
2 1/2	....	....	7.35	7.70	6	12	6	4	2 3/8

*In carbon steel only; at regular prices.

GTD Straight Pipe Taps

High Speed Steel

No. 6323 Cut Thread
No. 5323 Ground Thread
No. 323

Carbon Steel

Standard in plug style only. Nominal size of pipe tap is size of pipe fitting to be tapped and not the actual size of the tap.



High speed cut thread tap is standard in right-hand American Standard pipe form. Cut thread tap made

from under to over basic, to permit taper pipe gage to enter work up to notch. Ground thread tap is standard in right-hand American Standard pipe form and from 1/8 to 1/2-inch inclusive in American Standard Dryseal pipe form. Dryseal taps are used to tap fittings which will give pressure-tight joint without use of sealer.

Carbon steel tap is standard in right-hand American Standard pipe or British standard pipe form. The 1/8-in. tap standard with large or small-diameter shank (specify).

Nom. Size In.	Nos. 6323 5323 Each	No. 323		THREADS PER IN.		Thrd. Lgth. In.	No. of Flutes	Lgth. Over- all In.
		Amer. Std. Each	Brit. Std. Each	Am. N.P.S.	B.S.P. Parallel			
1/8	\$1.60	\$1.00	\$1.00	27	28	3/4	4	2 1/8
1/4	1.80	1.20	1.20	18	19	1 1/8	4	2 7/16
3/8	2.30	1.60	1.60	18	19	1 1/2	4	2 9/16
1/2	4.40	2.00	2.00	14	14	1 3/4	4	3 1/8
5/8	....	....	2.80	....	14	1 3/8	5	3 3/16
3/4	6.10	2.80	2.80	14	14	1 3/8	5	3 3/4
7/8	....	....	4.40	....	14	1 1/2	5	3 1/2
1	9.20	4.40	4.40	11 1/2	11	1 3/4	5	3 3/4
1 1/4	....	5.00	5.00	11 1/2	11	1 3/4	5	4
1 1/2	....	6.60	6.60	11 1/2	11	1 3/4	6	4 1/4
1 3/4	....	....	8.00	....	11	1 3/4	6	4 3/8
2	....	10.00	10.00	11 1/2	11	1 3/4	6	4 1/2

GTD Taper Pipe Taps

High Speed Steel

No. 6320 Cut Thread
No. 5320 Ground Thread
No. 6319 Interrupted Cut Thread
No. 5319 Interrupted Ground Thread
No. 320

Carbon Steel

Nominal size is that of pipe fitting to be tapped.

High speed cut thread tap standard in right-hand Amer. Standard pipe form. Ground thread tap standard in right-hand Amer. Standard and Amer. Standard Dryseal pipe form; Dryseal tap

used to tap fittings which will give pressure-tight joint without use of sealer. Interrupted thread: every other thread removed except for first few at point. Carbon steel: Amer. National form standard in right or left-hand; British standard form in right-hand only. The 1/8-in. tap standard with large or small-diameter shank (specify).

Nom. Size In.	Nos. 6320 5320 Each	Nos. 6319 5319 Each	No. 320 Each	THREADS PER IN.		Thrd. Lgth. In.	No. of Reg. Int.	Over- all Lgth. In.
				Am. N.P.T.	Brit. B.S.P.			
1/8	\$1.60	\$2.00	\$1.00	27	28	3/4	4	2 1/8
1/4	1.80	2.20	1.20	18	19	1 1/8	4	2 7/16
3/8	2.30	2.80	1.60	18	19	1 1/2	4	2 9/16
1/2	4.40	5.25	2.00	14	14	1 3/4	4	3 1/8
5/8	....	....	2.80	....	14	1 3/8	5	3 3/16
3/4	6.10	7.30	2.80	14	14	1 3/8	5	3 3/4
7/8	....	....	4.40	....	14	1 1/2	5	3 1/2
1	9.20	11.10	4.40	11 1/2	11	1 3/4	5	3 3/4
1 1/4	13.10	15.75	5.00	11 1/2	11	1 3/4	5	4
1 1/2	17.70	21.25	6.60	11 1/2	11	1 3/4	7	4 1/4
1 3/4	....	....	8.00	....	11	1 3/4	7	4 3/8
2	24.00	28.80	10.00	11 1/2	11	1 3/4	7	4 1/2
2 1/2	....	....	15.00	8	11	2 1/8	8	5 1/2
3	....	....	22.50	8	11	2 5/8	8	6
3 1/2	....	....	30.00	8	11	2 1/2	9	6 1/2
4	....	....	45.00	8	11	2 3/4	9	6 3/4

GTD Acorn Dies

No. 6390 High Speed Steel

No. 390 Alloy Steel



The Acorn die is easy to resharpen, and can be run at high speed. For use with 3 special type holders. With proper holder, die can be used on all makes of machines, drill presses, lathes, hand or automatic screw machines, turret lathes, bolt cutters, etc.

True concentric adjustment with its many obvious advantages is obtained with the Acorn die. Alloy steel dies furnished unless **high speed** steel dies are specified.

Sizes, dimensions, threads, and die blanks other than listed subject to special prices. Left-hand dies are special.

Special dies and holders for threading up to 3-inch fractional and 2-inch pipe sizes can be furnished.

When ordering, specify size and number of threads per inch, thread form, number of die blank, type—carbon or **high speed**, kind of material to be threaded, and whether or not die is to cut close to shoulder.

Die blank numbers correspond to terminal nos. of holders. For example: No. 0 die blanks fit Nos. 710, 730 and 780; No. 1 die blanks, Nos. 711, 731 and 781 series holders, etc.

Machine Screw Sizes

High Speed				Alloy			
DIE BLANK No.		DIE BLANK No.		DIE BLANK No.		DIE BLANK No.	
Nom. Size	O.D., In.	Threads Per Inch	N.C. N.F. N.S.	Nom. Size	O.D., In.	Threads Per Inch	N.C. N.F. N.S.
No.	Each	Each		No.	Each	Each	
0	...	...	...	80	...	...	...
1	...	...	...	64	...	...	...
2	\$5.00	56	64	3.25	3.25	...	56
3	5.00	48	56	3.25	3.25	...	48
4	5.00	40	48	36	3.25	3.25	40
5	5.00	40	44	...	3.25	3.25	40
6	5.00	32	40	...	3.25	...	32
8	5.00	32	36	...	3.25	4.25	32
10	5.00	24	32	...	3.25	4.25	24
12	5.00	24	28	...	3.25	4.25	24
14	...	...	...	...	3.25	4.25	20, 24

Fractional Sizes
High Speed Steel

DIE BLANK No.					THREADS PER INCH			
Nom. Size In.	1	2	3	4	5	N.C.	N.F.	N.S.
	OUTSIDE DIAMETER, INCHES							
	5/8	7/8	1 1/4	1 3/4	2 5/32			
1/4	\$5.00	\$7.00				20	28	27
5/16		7.00				18	24	27
3/8		7.00	\$8.25			16	24	27
7/16			8.25			14	20	27
1/2			8.25			13	20	27
9/16			8.25			12	18	27
5/8			8.25	\$14.00		11	18	27
3/4				14.00		10	16	27
7/8				14.00		9	14	27
1				14.00		8	14	27
1 1/8					\$20.00	7	12	..
1 1/4					20.00	7	12	..
1 3/8					20.00	..	12	..
1 1/2					20.00	..	12	..

GTD Releasing Acorn Die Holders
For Hand Screw Machines



While suitable for all machines, this holder is especially recommended for hand operated machines. Improved clutch mechanism allows holder to be released without shock. All parts subject to wear are carefully hardened.

Each holder is listed for largest size die within its capacity. Can also be furnished with caps for smaller dies.

No. of Holder	Each	No. of Die	DIMENSIONS, INCHES			Lgth. Thread Will Cut Inches
			Lgth. Shank	Diam. Shank	Lgth. Body	
730A	\$29.35	0	1 1/8	5/8	1 3/4	5/8
731AB	29.35	1	1 1/8	5/8	1 3/4	7/8
731CA	29.35	1	2	3/4	1 3/4	7/8
732AB	29.35	2	1 7/16	5/8	2 1/4	1 3/8
732BA	34.80	2	2	3/4	2 1/4	1 1/2
732DA	34.80	2	3	1	2 1/4	1 1/2
733AC	40.75	3	2	3/4	3 1/8	2 1/8
733AB	40.75	3	2 1/2	1	3 1/8	2 1/8
733CA	69.25	3	3 3/4	1 1/4	3 9/16	2 7/8
734AA	76.75	4	2	1	4 3/8	3 5/8
734AB	76.75	4	3 1/4	1 1/2	4 3/8	3 5/8
734BA	76.75	4	3	1 3/4	4 3/8	3 5/8
735A	90.50	5	3 3/4	2	4 11/16	4

No. 377 GTD Solid Hexagon Re-Threading Dies

Carbon Steel



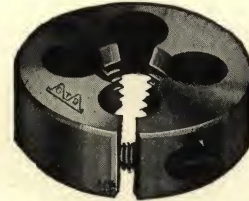
Used only for repair work, for dressing over bruised or rusty threads, and will go into any space that hexagon nuts will go.

Can be used in bit-brace sockets, ratchet or monkey wrenches.

American National Coarse (N.C.) threads furnished unless otherwise ordered.

Size Inches	Each	THREADS, PER INCH				Size of Die, In. Across Flats	Thick-ness
		N.C.	N.F.	N.S.	Whit. Std.		
1/4	\$.90	20	28	...	20	1 9/32	1/4
5/16	1.00	18	24	...	18	1 11/16	5/16
3/8	1.10	16	24	...	16	2 5/32	3/8
7/16	1.20	14	20	...	14	2 7/8	7/16
1/2	1.30	13	20	...	12	3 1/16	1/2
9/16	1.40	12	18	...	12	3 1/16	9/16
5/8	1.60	11	18	...	11	3 1/4	5/8
11/16	1.80	...	...	11, 16	11	3 1/2	11/16
3/4	2.10	10	16	...	10	3 3/4	3/4
7/8	2.40	9	14	...	9	4 1/8	7/8
1	2.70	8	14	...	8	4 1/2	1
1 1/8	3.20	7	12	...	7	5 1/8	1 1/8
1 1/4	3.70	7	12	...	7	5 3/8	1 1/4
1 3/8	4.20	6	12	...	6	5 7/8	1 3/8
1 1/2	4.70	6	12	...	6	6 1/4	1 1/2

No. 382 GTD Adjustable Round Split Dies
Carbon Steel



Furnished with American National form of thread. Sizes, dimensions and threads not listed are special. Left-hand dies are special.

Machine Screw Sizes

Screw Gage No.	O.D., IN.			No. of Threads PER INCH		
	5/16	3/8	1/2	N.C.	N.F.	N.S.
0	Each	Each	Each	...	80	...
1	\$1.30	\$1.50	...	64	72	56
2	1.15	1.30	...	56	64	...
3	1.00	1.15	...	48	56	...
4	.90	1.00	...	40	48	32, 36
5	.90	1.00	...	40	44	...
6	.90	1.00	\$1.25	32	40	36
8	.90	1.00	1.25	32	36	40
10	.90	1.00	1.25	24	32	30
12	.90	1.00	1.25	24	28	32
14	.90	1.00	1.25	...	...	20, 24

*Open adjusting type.

Fractional Sizes

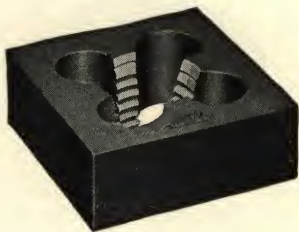
Cutting Size In.	OUTSIDE DIAMETER, INCHES					
	1/16	1/8	1/4	3/8	1/2	3/4
1/16	Each	Each	Each	Each	Each	Each
3/32	\$1.50	...	...	...	...	...
1/8	1.15	...	...	...	...	...
5/32	1.00	\$1.25	...	...	...	...
3/16	1.00	1.25	...	...	...	...
7/32	1.00	1.25	...	...	...	...
1/4	1.00	1.25	\$2.00	\$2.00	\$3.50	...
5/16	1.00	1.25	2.00	2.00	3.50	...
3/8	...	1.25	2.00	2.00	3.50	...
7/16	...	1.25	2.00	2.00	3.50	...
1/2	...	...	2.00	2.00	3.50	\$5.00
9/16	...	...	...	2.00	3.50	5.00
5/8	...	...	...	2.00	3.50	5.00
11/16	...	...	...	...	3.50	5.00
3/4	...	...	...	...	3.50	5.00
7/8	...	...	...	...	3.50	5.00
1	...	...	...	...	5.00	\$10.00
1 1/8	...	...	...	...	...	10.00
1 1/4	...	...	...	...	...	10.00
1 3/8	...	...	...	...	...	10.00
1 1/2	...	...	...	...	...	10.00

No. of Threads PER INCH

Cutting Size In.	N.C.			BRITISH STANDARD	
	N.C.	N.F.	N.S.	Whit.	Fine
1/16	...	...	64	60	...
3/32	...	...	48	48	...
1/8	...	...	40	40	...
5/32	...	...	32, 36	32	...
3/16	...	...	24, 32	24	32
7/32	...	...	24, 32	24	28
1/4	20	28	24, 32	20	26
5/16	18	24	32	18	22
3/8	16	24	...	16	20
7/16	14	20	...	14	18
1/2	13	20	...	12	16
9/16	12	18	...	12	16
5/8	11	18	...	11	14
11/16	...	...	11, 16	11	14
3/4	10	16	...	10	12
7/8	9	14	...	9	11
1	8	14	...	8	10
1 1/8	7	12	...	7	9
1 1/4	7	12	...	7	9
1 3/8	6	12	...	6	8
1 1/2	6	12	...	6	8

No. 275 GTD Solid Square Bolt Dies

Carbon Steel



Sizes, dimensions and threads not listed are subject to special prices.

Left-hand dies are special.

Cutting Size Inches	Each	THREADS PER INCH	Size Square Inches	Thickness Inches
		N.C.	N.S.	
1/4	\$2.25	20	...	2 1/2
5/16	2.40	18	...	2 1/2
3/8	2.50	16	...	2 1/2
7/16	2.65	14	...	2 1/2
1/2	3.00	13	...	2 1/2
9/16	3.15	12	...	3 3/4
5/8	3.25	11	...	3 3/4
3/4	3.50	10	...	3 3/4
7/8	3.75	9	...	3 3/4
1	4.25	8	...	2 1/2
1 1/8	4.75	7	...	2 1/2
1 1/4	5.25	7	...	2 1/2
1 3/8	5.75	6	...	2 1/2
1 1/2	6.25	6	...	3
1 5/8	7.00	...	5 1/2	3
1 3/4	8.00	5	...	3
1 7/8	12.00	...	5	3 1/2
2	16.00	4 1/2	...	3 3/4

GTD Stocks

For Adjustable Round Split Dies



Made from selected malleable iron casting accurately machined and highly polished. Handle is knurled to insure a firm grip.

—SCREW TYPE—				—SCREW TYPE—			
No.	No.	Each	Diam. Dies In.	No.	No.	Each	Diam. Dies In.
...	1750	\$1.50	5/8	1853	1753	\$2.75	1 1/2
1851	1751	1.50	13/16	1857	1757	3.50	2
1852	1752	1.75	1	1858	...	5.00	2 1/2
1852 1/2	...	2.50	1 5/16	1859	1759	8.50	3

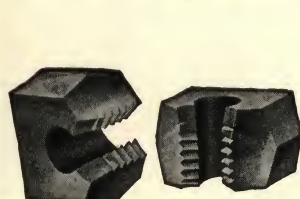
No. 380 Little Giant Adjustable Dies

Carbon Steel—Machine Screw Sizes

For 1/4-inch diameter collet.

Sizes, dimensions and threads not listed are subject to special prices.

Left-hand dies are special.



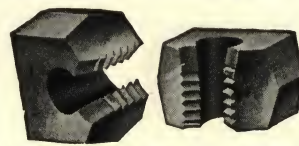
Screw Gage No.	Each	THREADS TO INCH	N.C.	N.F.	N.S.
2	\$1.80	56	64	...	...
3	1.80	48	56	...	...
4	1.80	40	48	32, 36	...
5	1.80	40	44	...	...
6	1.80	32	40	36	...
8	1.80	32	36	40	...
10	1.80	24	32	30	...
12	1.80	24	28	32	...
14	1.80	...	...	20, 24	...

Little Giant Adjustable Dies

Carbon Steel—Fractional Sizes

National Coarse threads furnished unless otherwise specified. Sizes, dimensions and threads not listed are subject to special prices. Left-hand dies furnished in N.C., N.F., B.S.W., and B.S.F. pitches in sizes 1/4 to 1 1/2 inches inclusive at regular prices.

In ordering, specify cutting size, no. of threads per inch, and outside diameter of collet in which to be used.

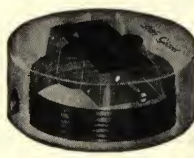


Nom. Size In.	Per Set	For Blank Nos.	No. OF THREADS PER INCH					Std. Pkg.
			N.C.	N.F.	N.S.	B.S.W.	B.S.F.	
1/16	\$1.80	A-1	...	...	64	...	...	60
3/32	1.80	A-1	...	...	48	...	...	48
1/8	1.80	A-1	...	...	40	...	...	...
5/32	1.80	A-1	...	...	32, 36	...	...	32
3/16	1.80	A-1, A	...	...	24, 32	24	...	...
7/32	1.80	A-1, A	...	...	24, 32	...	...	24
1/4	1.80	A-1, A	20	28	24, 32	20	26	...
5/16	1.80	A	18	24	32	18	22	26
3/8	2.20	B	16	24	...	16	20	26
7/16	2.20	B	14	20	...	14	18	26
1/2	2.60	B, C	13	20	12	12	16	26
5/8	2.60	C	12	18	...	12	16	26
9/16	3.00	C	11	18	...	11	14	26
11/16	3.00	C	...	...	11, 16	11	14	...
3/4	3.40	C	10	16	...	10	12	26
7/8	4.80	D	9	14	...	9	11	26
1	4.80	D	8	14	...	8	10	26
1 1/8	6.80	E	7	12	...	7	9	...
1 1/4	6.80	E	7	12	...	7	9	...
1 3/8	8.80	F	6	12	...	...	8	...
1 1/2	8.80	F	6	12	...	6	8	...

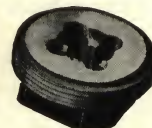
Blank Sizes

Blank No.	A-1	A	B	C	D	E	F
Width across Flat	...	...	...	...	...	...	...
.....inches	23/64	1/2	19/32	27/32	1 1/32	1 1/4	1 1/2

Little Giant Collets



Cap (Phantom View)



Guide



Collet, Complete

The two die halves are laid in the cap, the guide is then screwed in, and when tightened holds the die in a three-angle grip. Adjusted by two small screws in cap which press against ends of die halves. When screw is tightened the whole die, cap and guide becomes rigid as a solid die. Table shows range of sizes for each collet.

When ordering extra collets or guides, give outside diameter of collet and cutting size of die for which it is required.

No. of Collet	A1	1	5	20	25
Collet Diam. in.	1 1/4	2	2 3/4	4	4 1/2
Cutting Size	2-14	1/16-1/4	3/16-1/2	5/8-1	1 1/4-1 1/2
Dies	...	...	...	...	...
Cap.....each	\$.80	\$1.10	\$1.75	\$4.00	\$5.00
Guide.....each	.35	.50	.85	1.25	1.75
Collet Comp.....each	1.15	1.60	2.60	5.25	6.75



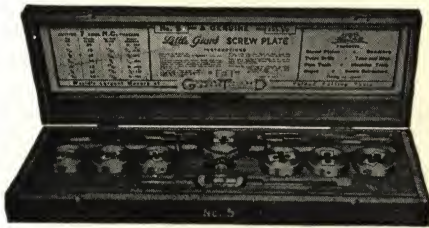
Little Giant Stocks

For Screw Plates

Used in all Little Giant screw plates except full mounted.

No.	A1	1	5	5A	5B	20	25
Each	\$2.50	4.25	6.00	6.00	6.00	12.00	15.00
Length.....in.	7 1/2	14 1/2	23	26	29	41	52
Wt.....lb.	1/2	1 7/8	2 1/4	2 5/8	2 7/8	5 1/2	9 5/8

Little Giant Single Stock Screw Plates



N.C. threads furnished unless otherwise ordered. N.F., B.S.F., or Whitworth Standard threads furnished at regular prices if specified.

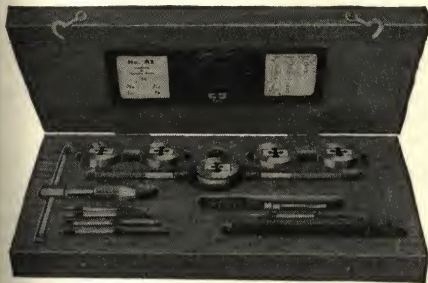
No.....	0	1	2	3	4	5	5 1/2
Per Set.....	\$30.00	26.50	35.00	39.50	43.50	42.00	47.00

One Hand Tap and One Little Giant Die and Collet for Each Cutting Size	3/16 24 1/4 20 5/16 18 3/8 16 7/16 14 1/2 13	1/4 20 5/16 18 3/8 16 7/16 14 1/2 13	1/4 20 5/16 18 3/8 16 7/16 14 1/2 13	1/4 20 5/16 18 3/8 16 7/16 14 1/2 13	1/4 20 5/16 18 3/8 16 7/16 14 1/2 13	1/4 20 5/16 18 3/8 16 7/16 14 1/2 13	1/4 20 5/16 18 3/8 16 7/16 14 1/2 13
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Diam. Collet.....inches	2	2	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4
Lgth. Stock.....in.	14 1/2	14 1/2	23	26	26	23	23
Tap Wrench No.....	5	5	6	7	7	6	6
Weight.....lb.	9 1/2	9	17	18	20 1/2	20	22

Little Giant Screw Plates

A Series—Machine Screw and Small Fractional Sizes



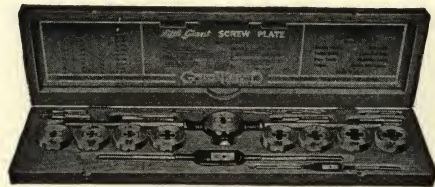
National Form of thread furnished unless otherwise ordered. B.S.F. or Whitworth Standard threads furnished at regular prices if specified.

Collet wrench for removing guide from cap furnished in each set.

No.....	A1	A1½	A4	A10	AA2	AA4
Per Set.....	\$17.50	24.00 1⁄16 64	32.00 1⁄16 64	30.00	18.00 436 632 832	23.00 436 632 832
One Hand Tap and One Little Giant Die and Collet for Each Cutting Size	1⁄8 40 5⁄32 36 3⁄16 24 7⁄32 24 1⁄4 20	1⁄8 40 5⁄32 36 3⁄16 24 7⁄32 24 1⁄4 20	1⁄8 40 5⁄32 36 3⁄16 24 436 632 832 1024	1⁄8 40 5⁄32 36 3⁄16 24 7⁄32 24 1⁄4 20 1024	1224	1024 1032 1224 1⁄4 20
Diam. Collet.....in.	1¼	1¼	1¼	1¼	1¼	1¼
Length Stock.....in.	7½	7½	7½	7½	7½	7½
Tap Wrench No.....	329	329	329	329	329	329
Weight.....pounds	2½	3	4	5½	2½	3
*Has 1¼-inch collets for sizes ¼ inch and smaller; 2 inch collets for sizes ¾ inch and larger.						

*Has 1 1/4-inch collets for sizes 1/4 inch and smaller; 2 inch collets for sizes 5/16 inch and larger.

Little Giant Single Stock Screw Plates



N. C. threads furnished unless otherwise ordered. N. F., B. S. F., or Whitworth Standard threads furnished at regular prices if specified.

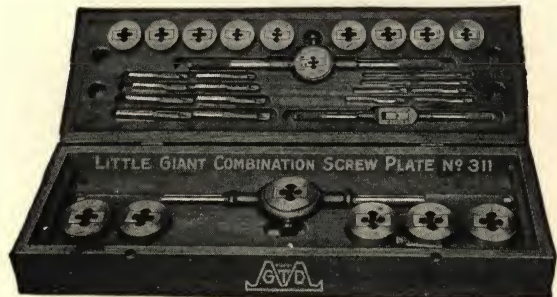
No.....	6	7	7 1/2	20	25	30
Per Set.....	\$51.00	62.50	67.00	88.00	112.00	93.00

One Hand Tap and One Little Giant Die and Collet for Each Cutting Size	3/16 20 7/16 14 1/2 13 5/8 11 3/4 10 7/8 9 1 8	3/16 20 7/16 14 1/2 13 5/8 11 3/4 10 7/8 9 1 8	3/16 20 7/16 14 1/2 13 5/8 11 3/4 10 7/8 9 1 8	3/16 20 7/16 14 1/2 13 5/8 11 3/4 10 7/8 9 1 8	3/16 20 7/16 14 1/2 13 5/8 11 3/4 10 7/8 9 1 8	3/16 20 7/16 14 1/2 13 5/8 11 3/4 10 7/8 9 1 8
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Diam. Collet.....in.	2 3/4	2 3/4	2 3/4	4	4 1/2	4 1/2
Lengh Stock.....in.	26	26	26	41	52	52
Tap Wrench No.....	7	5, 7	5, 7	7 1/2	8	8
Weight.....pounds	23	27	29	49 1/2	71	58

Little Giant Combination Screw Plates

For Automobiles and Other Fine Thread Purposes



Furnished with N.C. and N.F. threads

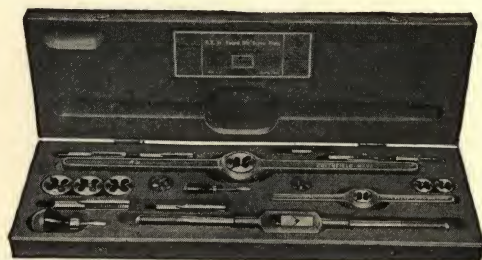
No.....	310	311	312
Per Set.....	\$44.00	80.00	116.00
Thread Standard.....	N.C. N.F.	N.C. N.F.	N.C. N.F.

One Hand Tap and One Little Giant Die and Collet for Each Cutting Size	1/4 20 5/16 18 3/8 16 7/16 14 1/2 13	1/4 20 5/16 18 3/8 16 7/16 14 1/2 13	1/4 20 5/16 18 3/8 16 7/16 14 1/2 13
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Diameter Collet.....in.	*2	*2, 2 3/4	*2, 2 3/4
Lengh Stock.....inches	14 1/2	14 1/2, 23	14 1/2, 29
Tap Wrench No.....	5	6	5, 7
Weight.....pounds	14	31	45

*The 2-inch collets are for sizes 1/2 inch and smaller; 2 3/4-inch collets for sizes 5/16 inch and larger; also bit brace shank guide fitting 2-inch caps.

O.K. Jr. Round Die Screw Plates



For general repair work. Well-balanced die stocks with adjustable guides. Supplied with one large and one small screwdriver.

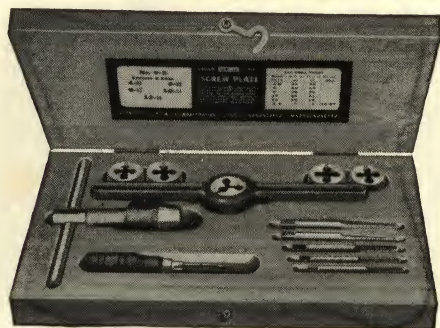
N.C. threads furnished unless otherwise ordered. Whitworth Standard threads can be furnished at regular prices.

No.	401	405	407
Per Set.	\$23.00	28.50	52.50
	$\frac{1}{4}$ 20	$\frac{1}{4}$ 20	$\frac{1}{4}$ 20
	$\frac{5}{16}$ 18	$\frac{5}{16}$ 18	$\frac{5}{16}$ 18
	$\frac{3}{8}$ 16	$\frac{3}{8}$ 16	$\frac{3}{8}$ 16
	$\frac{7}{16}$ 14	$\frac{7}{16}$ 14	$\frac{7}{16}$ 14
	$\frac{1}{2}$ 13	$\frac{1}{2}$ 13	$\frac{1}{2}$ 13
		$\frac{5}{8}$ 11	$\frac{5}{8}$ 11
		$\frac{3}{4}$ 10	$\frac{3}{4}$ 10
			$\frac{7}{8}$ 9
			1 8

Diam. Die. in.	$\frac{1}{4}$ - $\frac{3}{8}$, 1 O.D.	$\frac{1}{4}$ - $\frac{3}{8}$, 1 O.D.	$\frac{1}{4}$ - $\frac{3}{8}$, 1 O.D.
	$\frac{7}{16}$ - $\frac{3}{4}$, $1\frac{1}{2}$ O.D.	$\frac{7}{16}$ - $\frac{3}{4}$, $1\frac{1}{2}$ O.D.	$\frac{7}{16}$ - $\frac{3}{4}$, $1\frac{1}{2}$ O.D.
Stock No.	14, 15	14, 15	14, 15, 16
Length Stock. in.	9, $17\frac{3}{4}$	9, $17\frac{3}{4}$	9, $17\frac{3}{4}$, 26
Tap Wrench No.	5	6	5, 7
Weight. pounds	$7\frac{1}{2}$	$9\frac{1}{2}$	20

O.K. Jr. Round Die Screw Plates

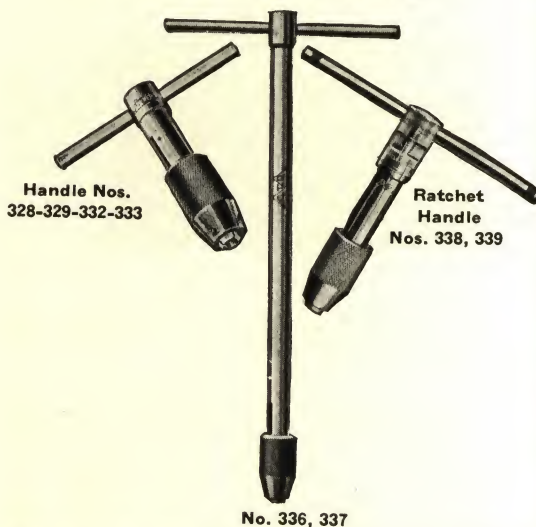
Machine Screw Sizes



Handy for small work of all kinds. Dies are adjustable and are held in stock by three tapered screws which also give proper adjustment. A small screwdriver for turning screws in the stock is furnished in set.

No.	B5	B7	B10
Per Set.	\$11.00	13.50	17.00
	436	436	440
	632	632	448
			632
			640
One O.K. Jr. Tap and One O.K. Jr. Round Split Die for Each Cutting Size	832	832	832
			836
	1024	1024	1024
		1032	1032
	1224	1224	1224
			1228
			$\frac{1}{4}$ 20
Diameter Die. inches	$\frac{13}{16}$	$\frac{13}{16}$	$\frac{13}{16}$
Stock No.	13	13	13
Length Stock. inches	$6\frac{1}{4}$	$6\frac{1}{4}$	$6\frac{1}{4}$
Tap Wrench No.	329	329	329
Weight. pounds	$1\frac{1}{2}$	$1\frac{7}{8}$	2

GTD Tap Wrenches



Made from steel. Hardened chuck jaws. Plain handle.

No.	Each	Hand, In.	CAPACITY TAP SIZES Machine Screw No.	Length Inches	Weight Ounces
*328	\$1.20	$\frac{1}{16}$ - $\frac{1}{4}$	0-14	$2\frac{3}{4}$	3
*329	.90	$\frac{1}{16}$ - $\frac{1}{4}$	0-14	$2\frac{3}{4}$	3
*332	1.75	$\frac{7}{32}$ - $\frac{1}{2}$	12-14	$3\frac{5}{8}$	8
*333	1.50	$\frac{7}{32}$ - $\frac{1}{2}$	14	$3\frac{5}{8}$	8
*336	2.00	$\frac{1}{16}$ - $\frac{1}{4}$	0-14	$8\frac{3}{8}$	8
*337	2.25	$\frac{7}{32}$ - $\frac{1}{2}$	12-14	$10\frac{5}{8}$	20
*338	2.75	$\frac{1}{16}$ - $\frac{1}{4}$	0-14	4	6
*339	3.00	$\frac{7}{32}$ - $\frac{1}{2}$	12-14	$4\frac{5}{8}$	11

*Slip handle type.

GTD Adjustable Tap and Reamer Wrenches



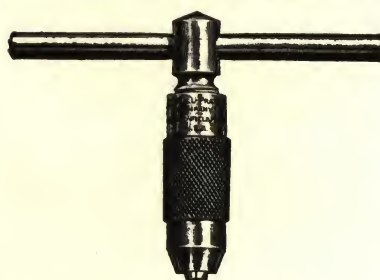
Jaws are made of tool steel, carefully hardened and tempered. They will not break or get out of line.

Wrenches Nos. 00 to 7 are solid steel drop forgings.

Larger sizes, Nos. $7\frac{1}{2}$ and 8, have malleable iron bodies and steel tubing handles.

No.	Each	Hand	Machine Screw	Pipe	Hand Reamers	Lgth. In.	Wt. Lb.
00	\$2.25	$\frac{1}{16}$ - $\frac{1}{4}$	0-14	.....	$\frac{1}{8}$ - $1\frac{7}{64}$	5	$\frac{1}{8}$
0	2.75	$\frac{1}{16}$ - $\frac{1}{4}$	0-14	.....	$\frac{1}{8}$ - $2\frac{1}{64}$	7	$\frac{1}{4}$
4	3.75	$\frac{1}{16}$ - $\frac{3}{8}$	0-14	.....	$\frac{1}{8}$ - $2\frac{5}{64}$	9	$\frac{7}{16}$
5	4.50	$\frac{5}{32}$ - $\frac{1}{2}$	7-14	$\frac{1}{8}$	$1\frac{1}{64}$ - $\frac{7}{16}$	11	$1\frac{1}{16}$
6	5.00	$\frac{5}{32}$ - $\frac{3}{4}$	7-14	$\frac{1}{8}$ - $\frac{1}{4}$	$1\frac{1}{64}$ - $\frac{4}{16}$	15	$1\frac{5}{8}$
7	6.25	$\frac{1}{4}$ - $1\frac{1}{8}$	.....	$\frac{1}{8}$ - $\frac{3}{4}$	$\frac{9}{32}$ - $2\frac{9}{32}$	19	$2\frac{7}{8}$
$7\frac{1}{2}$	10.00	$\frac{1}{2}$ - $1\frac{3}{8}$	.....	$\frac{1}{8}$ - 1	$\frac{3}{8}$ - $1\frac{5}{32}$	31	$4\frac{1}{2}$
8	14.25	$\frac{3}{4}$ - $1\frac{5}{8}$	.....	$\frac{3}{8}$ - $1\frac{1}{4}$	$\frac{3}{4}$ - $1\frac{11}{32}$	40	8

Millers Falls Tool or Tap Holders



Convenient for holding small drills, taps, reamers, or other small tools to be turned by hand.

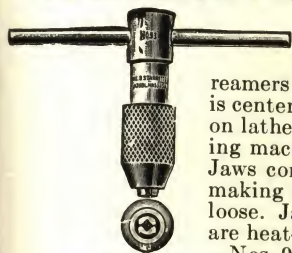
Extra long knurled chuck shell.

Forged steel jaws are tempered and hardened. Will not break with ordinary use.

Packed 1 in a box.

No.	88	89
Each.	\$1.00	1.25
Length of Handle. inches	$3\frac{1}{2}$	$4\frac{1}{2}$
Capacity. inches	$\frac{7}{32}$	$\frac{3}{8}$
Weight Each. ounces	$3\frac{1}{4}$	$4\frac{1}{2}$

No. 93 Starrett T-Handle Tap Wrenches



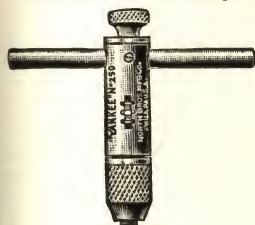
Used for holding taps to be turned by hand, and is also useful for holding drills, reamers and other small tools. Body is centered, enabling workman to use it on lathe centers, or in an upright drilling machine to start the tap straight. Jaws conform to the piece to be held, making it rigid and less apt to become loose. Jaws and knurled clamping nuts are heat-treated.

Nos. 93D, 93E and 93F are constructed with body proportionately longer from knurled chuck to T handle. Nos. 93C and 93F made with sliding handle. Packed 1 in box.

No.	93A	93B	93C	93D	93E	93F
Each.....in.	\$1.50	2.00	3.50	2.75	3.00	4.50
Length.....in.	1 $\frac{3}{4}$	2 $\frac{1}{16}$	3 $\frac{1}{16}$	6	9 $\frac{3}{8}$	12 $\frac{7}{8}$
Cap.....sq. in.	$\frac{1}{16}$ - $\frac{3}{32}$	$\frac{3}{32}$ - $\frac{1}{4}$	$\frac{3}{16}$ - $\frac{5}{16}$	$\frac{1}{16}$ - $\frac{3}{32}$	$\frac{3}{32}$ - $\frac{1}{4}$	$\frac{3}{16}$ - $\frac{5}{16}$

Yankee Ratchet Tap Wrenches

This wrench is adaptable, convenient and efficient for working in close quarters, corners and inaccessible places.



No. 250A

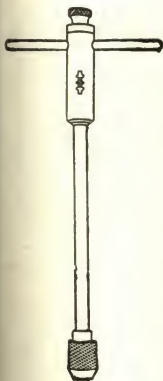
With the shifter at top, it is left hand; at bottom, right hand; and in center, rigid as ordinary tap wrench.

The cross bar is held central by a friction device and is of ample leverage for even larger taps than the chucks will hold.

All outside parts are plated. Packed 1 in a box.

No.	250A	251A
Each.....	\$4.80	5.34
Hold Taps.....	$\frac{3}{16}$	$\frac{5}{16}$
Outside Diameter Chuck.....inches	$\frac{3}{4}$	$\frac{7}{8}$
Length Overall.....inches	3 $\frac{1}{4}$	4 $\frac{3}{16}$
Weight.....ounces	7	12

No. 1251A Yankee Ratchet Tap Wrenches



Tool steel ratchet and pawls hardened and tempered. Hardened steel chuck jaws.

A knurled thumb piece at top of wrench affords a ready means of starting in and backing out of the tap quickly. In the end of this thumb piece is a countersunk hole to use tap wrench on lathe center when desired, for holding small drills.

The crossbar is held rigid by a friction device and is of ample leverage for even larger taps than the chuck will hold.

Packed 1 in a box.

Holds Tap.....inches	$\frac{5}{16}$
No. 1251A.....each	\$7.34
Diameter Chuck.....inches	$\frac{7}{8}$
Length Overall.....inches	13
Weight per Dozen.....pounds	18

Walton Pipe Tap Extractors



Designed to fit pipe taps. Sizes and styles not listed can be furnished on special order.

When ordering, be sure to specify pipe tap and whether 4 or 5-flute style is required.

Pipe Tap Size.....in.	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1
Extractors,						
4-Flute.....each	\$1.70	\$2.00	\$2.45	\$2.75		
5-Flute.....each	1.85	2.15	2.70	3.10	\$3.80	\$4.50
Extra Fingers,						
4-Flute.....each	.12	.15	.20	.25		
5-Flute.....each	.12	.15	.20	.25	.25	.30

Walton Tap Extractor Sets



For removing taps broken at or below surface of work without injury to thread.

The alloy steel fingers, which fit the flutes of the tap, grip and back out the broken piece quickly, easily and without damage to threads. No annealing, drilling or special tools are required.

Each set is packed in a metal case.

Available with 2, 3, or 4 flutes. Four-flute style will be supplied unless otherwise specified.

No.	Set	Sizes, One Each, Per Set	Wt. Lb.
1	\$9.00	$\frac{3}{16}$, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$ -inch.....	1 $\frac{3}{4}$
2	9.25	$\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, and $\frac{5}{8}$ -inch.....	2
3	9.75	$\frac{3}{16}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, and $\frac{3}{4}$ -inch.....	2 $\frac{1}{4}$
11	19.85	* $\frac{1}{8}$, $\frac{3}{16}$, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, and 1-inch.....	6 $\frac{1}{2}$
13	20.10	*4, *5, *6, 8, 10, 12 Machine Screws; and $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$ -inch.....	4 $\frac{3}{4}$
15	24.85	*4, *5, *6, 8, 10, 12 Machine Screws; and $\frac{1}{4}$, $\frac{3}{16}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1-inch.....	6 $\frac{1}{2}$

*3 flute style supplied.

Ridgid Longrip Screw Extractors

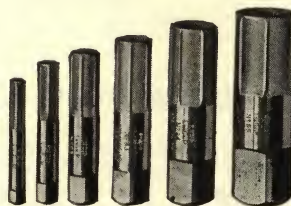
Standard Length

With Sliding Turnut



No.	1	2	3	4	5
Each.....	\$.84	.90	.97	1.10	1.30
Diameter Drill.....inches	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{11}{32}$
Overall Length.....inches	2 $\frac{3}{16}$	2 $\frac{3}{8}$	3 $\frac{1}{16}$	3 $\frac{3}{16}$	3 $\frac{3}{4}$
For Screw & Bolt Sizes....in.	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	1 $\frac{1}{2}$ - $\frac{9}{16}$
Max. Depth Extraction....in.	1	1	1	1	1

Ridgid Longrip Straight Fluted Pipe Extractors



Made with vertical flutes that stand out slightly from tool. Easily driven into pipe end, flutes grooving way firmly down entire length inserted. Will not turn into or out of broken end. No damaging of threads, wedging, bottoming, slipping, reaming, or spreading of pipe.

Separate extractor for each size pipe. Sets in canvas bags.

Ridgid Longrip Pipe Extractors

No.	Each	Pipe Size In.	O.D. Flute In.	Overall Lgth. In.	Use Drill In.	No.	Each	Pipe Size In.	O.D. Flute In.	Overall Lgth. In.	Use Drill In.
80	\$1.40	$\frac{1}{8}$	.287	2 $\frac{1}{4}$	$\frac{1}{4}$	83	\$2.80	$\frac{1}{2}$	.665	3	$\frac{5}{8}$
81	1.55	$\frac{1}{4}$	.389	2 $\frac{1}{2}$	$\frac{3}{8}$	84	3.85	$\frac{3}{4}$	.860	3 $\frac{1}{4}$	1 $\frac{1}{2}$
82	2.20	$\frac{3}{8}$	.538	2 $\frac{3}{4}$	$\frac{1}{2}$	85	5.75	1	1.069	3 $\frac{1}{2}$	1 $\frac{1}{2}$

Sets of Ridgid Longrip Pipe Extractors

Sets contain assortments as shown in following table.

No.	Each	Pipe Size, In.	Part Nos.
880	\$7.90	$\frac{1}{8}$ - $\frac{1}{2}$	80 to 83 Incl.
881	10.15	$\frac{1}{4}$ - $\frac{3}{4}$	81 to 84 Incl.
882	15.60	$\frac{1}{4}$ -1	81 to 85 Incl.
883	16.90	$\frac{1}{8}$ -1	80 to 85 Incl.

Walton Tap Extractors



Used in metalworking plants for removing taps broken at or below the surface of work without annealing, drilling or damage to threads or work.

Fingers are of specially tempered crucible steel.

When ordering, specify whether for 2, 3 or 4-fluted taps; 4-fluted style supplied unless otherwise specified.

Orders for ten or more sizes will be shipped in a metal box upon request.

Size Tap In. It Will Remove	Com- plete Each	Extra Fingers Each	Size Tap In. It Will Remove	Com- plete Each	Extra Fingers Each
*4	\$1.50	\$.04	7/16	\$1.70	\$.12
*5(1/8)	1.50	.04	1/2	1.85	.15
6	1.50	.04	9/16	2.00	.15
8	1.50	.04	5/8	2.20	.20
10(3/16)	1.50	.06	11/16	2.35	.20
12	1.55	.08	3/4	2.45	.20
1/4	1.55	.10	7/8	2.75	.25
†9/32	1.55	.10	†1	3.10	.25
5/16	1.60	.10	†1 1/8	3.50	.25
†11/32	1.60	.10	†1 1/4	4.00	.30
3/8	1.60	.12	†1 1/2	4.50	.30
†13/32	1.70	.12	†1 3/4	5.00	.35

*2 and 3-flute only; †4-flute only; ‡3 and 4-flute only.

No. 192 Standard Screw Extractors



To remove broken screw, drill hole in it, insert screw

extractor; turn to left to take out screw.

No.	Each	Diam. Small End Inches	Diam. Large End Inches	Length Flute Inches	Whole Length Inches	Size Drill to Use	For Screws and Bolts Sizes Inches
1	\$.25	.054	5/32	1/2	2	3/64	3/16-1/4
2	.28	.080	3/16	3/4	2 3/8	1/4	1/4-5/16
3	.30	1/8	1/4	1	2 11/16	5/32	5/16-7/16
4	.35	3/16	21/64	1 1/8	2 7/8	1/4	7/16-9/16
5	.39	1/4	1/2	1 1/2	3 3/8	17/64	9/16-3/4
6	.47	5/16	19/32	1 3/4	3 3/4	13/32	3/4-1
7	.84	1/2	3/4	2	4 1/8	1 1/2	1-1 3/8
8	1.15	3/4	1	2	4 3/8	1 3/8	1 3/8-1 3/4
9	1.65	1	1 1/32	2 1/4	4 5/8	1 1/2	1 3/4-2 1/8
10	2.50	1 1/4	1 1/16	2 1/2	5	1 5/8	2 1/8-2 1/2
11	3.35	1 1/2	1 7/8	3	5 5/8	1 3/4	2 1/2-3
12	4.16	1 5/8	2 1/16	3 1/2	6 1/4	1 5/8	3-3 1/2

Screw Extractor Sets

No. 15, Includes Nos. 1, 2, 3, 4, 5..... per set \$1.42

No. 15A, Includes Nos. 1, 2, 3, 4, 5, 6..... per set 1.90

No. 16, Includes Nos. 6, 7, 8, 9..... per set 4.10

No. 17, Includes Nos. 4, 5, 6..... per set 1.11

*No. 200, Includes Nos. 1, 2, 3, 4, 5, 6 (High Speed) per set 4.94

*With proper straight shank drill for each extractor.

Jacobs Headstock Chucks

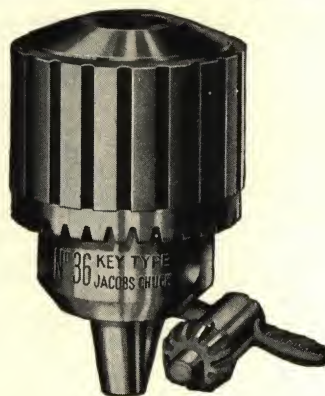


Threads directly to spindles of small lathes. Hollow construction lends itself to chucking long pieces extending into spindle of lathe. When combined with tool post grinder, chuck is ideal for valve refacing work.

No.	Each	55B	56B	58B	59B
Capacity.....	inches	*0-1 1/2	*0-1 3/4	1 1/8-1 1/2	3/16-3/4
Length Jaws Closed.....	inches	3 3/16	3 1/8	4 1/16	5
Length Jaws Open.....	inches	3 3/8	3 1/4	3 3/4	4 3/32
Diameter.....	inches	2 3/16	2 1/8	2 1/4	2 1/8
Threaded Hole.....	inches	1x8	1x10	1 1/2x8	1 1/2x8
Weight.....	pounds	1 15/16	1 15/16	2 7/8	3 1/8

*1/8-5/8-inch optional.

Jacobs Plain Bearing Chucks



Particularly designed for portable drills, light and medium duty drill presses and lathes.

This light and medium duty threaded and tapered back model is of precision ground construction on all moving parts, resulting in a tightening action which maintains jaw parallelism.

Light Duty—For Tapered Arbors and Spindles

No.	Each	Keys Each	Jaws & Nuts Per Set	Sleeves Each	Cap. In.	Taper
0	\$6.50	\$.35	\$2.50	\$1.00	0-5/32	0
1A	5.50	.35	2.25	.90	0-1/4	1
2A	6.50	.50	2.50	1.00	0-3/8	2
33	7.50	.50	3.00	1.00	5/64-1/2	33
*3333C	8.50	.50	3.00	1.00	5/64-1/2	33
3326	7.50	.50	3.00	1.00	5/64-1/2	†3 1/2
6A-2A	8.00	.55	3.25	1.25	0-1/2	2
6A-33	8.00	.55	3.25	1.25	0-1/2	33
*633C	9.00	.55	3.25	1.25	0-1/2	33
6A-E	8.00	.55	3.25	1.25	0-1/2	E

†Light Duty—For Threaded Spindles

No.	Each	Cap., In.	Thread
0B	\$6.50	0-5/32	5/16x24
1B	5.50	0-1/4	3/8x24, 5/16x24
2B	6.50	0-3/8	3/4x24
33B	7.50	5/64-1/2	1/2x20, 5/8x16
6B	8.00	0-1/2	1/2x13, 1/2x20, 1/2x24

Medium Duty—For Tapered Arbors and Spindles

No.	Each	Keys Each	Jaws & Nuts Per Set	Sleeves Each	Cap. In.	Taper
7	\$5.50	\$.40	\$2.25	\$.90	0-1/4	2 Short
7-1A	5.50	.40	2.25	.90	0-1/4	1
30	6.00	.45	2.50	.90	0-5/16	2 Short
30-1A	6.00	.45	2.50	.90	0-5/16	1
32	6.50	.50	2.50	1.00	0-3/8	2
34	8.00	.55	3.25	1.25	0-1/2	6
3	9.50	.55	3.75	1.50	0-17/32	3
3A	9.50	.55	3.75	1.50	1/8-5/8	3
3A-E	9.50	.55	3.75	1.50	1/8-5/8	E
36	12.00	.80	4.75	1.75	3/16-3/4	3
36E	12.00	.80	4.75	1.75	3/16-3/4	E

†Medium Duty—For Threaded Spindles

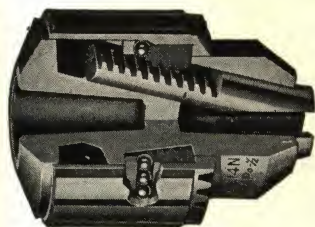
No.	Each	Cap., In.	Thread
7B	\$5.50	0-1/4	3/8x24, 1/2x20
30B	6.00	0-5/16	3/8x24, 1/2x20
32B	6.50	0-3/8	1/2x20, 5/8x16, 45/64x16
34B	8.00	0-1/2	3/4x16, 45/64x16, 3/4x16
33B	9.50	1/8-5/8	5/8x16, 45/64x16, 3/4x16
36B	12.00	5/16-3/4	5/8x16, 3/4x16

†Straight hole.

*Equipped with a threaded locking collar which has a 1 1/16x20 thread.

†Parts for B threaded chucks are interchangeable with the tapered models and carry the same prices.

Jacobs Ball Bearing Super Drill Chucks



Recommended for use in machineshop and toolroom —on drilling machines, lathes, screw machines and drilling operations requiring gripping power, accuracy and wearing quality. Ball bearings eliminate friction, making chuck easy to operate. It may be tightened by hand for ordinary drilling and tool work

and only a slight pressure on key is necessary for the heaviest drilling. Interchangeable on all present Jacobs equipped spindles.

Model N Super Chucks have an inserted ball thrust race. Except for key, parts are not interchangeable with the old style Super Chucks.

When ordering parts for Model N, specify Model N.

No.	8 1/2 N	11 N	14 N	16 N	18 N	20 N
Each	\$6.50	8.50	11.00	13.50	17.50	24.00
Capacity...in.	0-1/4	0-3/8	0-1/2	1/2-5/8	3/4-1	1-1/8
Taper No.	2 Short	2	3	3	4	5

Parts

No.	8 1/2 N	11 N	14 N	16 N	18 N	20 N
Keys.....each	\$4.45	\$5.50	\$5.55	\$5.80	\$5.80	\$1.35
Jaws and Nuts...per set	2.50	3.50	4.50	5.50	7.00	9.50
Sleeves.....each	1.00	1.25	1.75	2.00	2.75	3.75
Ball Thrust Race and Balls.....each	.60	.75	.90	1.20	1.50	2.25

Parts for Old Model Chucks

No.	8 1/2	9	11	14	16	18	20
Keys.....each	\$4.45	\$5.50	\$5.50	\$5.55	\$5.80	\$5.80	\$1.35
Jaws and Nuts...per set	2.50	3.25	3.50	4.50	5.50	7.00	9.50
Sleeves.....each	1.00	1.25	1.25	1.75	2.00	2.75	3.75
Balls.....per set	.30	.45	.45	.60	.75	.75	.90

Jacobs Portomatic Chucks



Ball Bearing—Keyless Medium Duty

Designed for portable drill use and machine drilling where the keyless or self-tightening feature is required.

Ball bearings rapid in action, powerful, easily released by a slight twist of the knurled sleeve. Grip automatically tightens with increased load.

Furnished in all standard tapers and threads and interchangeable on all present Jacobs equipped spindles.

Tapered Hole Model

No.	Each	Capacity Inches	Taper No.	JAW LGTH., IN. Open	JAW LGTH., IN. Closed	Diam. In.	WEIGHT Lb.	Oz.
250	\$8.00	0-1/4	2 Short	2 25/32	2 13/32	1 11/32	0	12
250-1A	8.00	0-1/4	1	2 25/32	2 13/32	1 11/32	0	12
312	9.00	0-5/16	2 Short	3 3/32	2 19/32	1 11/2	0	15
375	10.00	0-3/8	2	3 5/8	3	1 3/4	1	7
500	12.00	1/2-1/2	6	4 5/16	3 5/8	2 1/16	2	3

Threaded Hole Model

No.	Each	Capacity Inches	Thread	JAW LGTH., IN. Open	JAW LGTH., IN. Closed	Diam. In.	WEIGHT Lb.	Oz.
250B	\$8.00	0-1/4	3/8x24	2 25/32	2 13/32	1 11/32	0	12
312B	9.00	0-5/16	1/2x20	3 3/8	2 19/32	1 1/2	0	15
375B	10.00	0-3/8	5/8x16	3 5/8	3	1 3/4	1	7
500B	12.00	1/2-1/2	1 1/8x16	4 5/16	3 5/8	2 1/16	2	3

Parts

Chuck No.	250	312	375	500
Screws.....each	\$2.00	\$2.25	\$2.50	\$3.00
Jaws.....per set	1.75	2.00	2.25	2.50
Carriers.....each	1.75	2.00	2.25	2.50
Collars.....each	.75	.90	1.00	1.25
Balls and Washer.....per set	.40	.50	.60	.60

Jacobs Chuck Keys



Sleeves, jaws and nuts are interchangeable on regular A and B models bearing the same No., for example, 7, 7-1A, 7B.

No.	Each	Fits Chucks
0	\$.35	No. 0, OB
1	.35	No. 1, 1A, 1B, 1BB, 1BS
2	.50	No. 2, 2A, 2B, 2AD
3	.55	No. 3, 3A, 3B, 3AE, 6, 6A-2A, 6A-33, 6B, 6AE, 34, 34B, 14, 14N, 54B, 55B, 56B, 58B, 34VR, 75A, 633C
4	.80	No. 4, 16, 16N, 18, 18N, 36, 36B, 59B
5	1.35	No. 5, 20, 20N
7	.40	No. 7, 7B, 7-1A, 7D, 255, 7BB
30	.45	No. 30, 30B, 30-1A, 30D, 8 1/2, 8 1/2 N, 318, 30BB
32	.50	No. 32, 32B, 33, 33B, 9, 11, 11N, 381, 32BB, 33BB, 3333C, 3326

Jacobs Taper Chuck Arbors



Tapered back chucks have a hole for mounting them directly on the machine spindle, or to arbors or adapters which in turn fit the machine spindle.

When ordering arbors or adapters, the model No. of the chuck for which the arbor is required must be specified as well as the style and No. of the arbor.

Morse Taper Shank

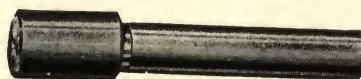
Taper No.	0	1	2	3	4	5
Each	\$1.00	1.00	1.00	1.50	2.40	4.50

Brown & Sharpe Taper Shank

Taper No.	7	8	9	10	30
Each	\$2.25	3.25	5.50	6.50	14.00

Jacobs Straight Shank Arbors

For turret lathe and screw machine. Used to fit chucks to spindles having straight holes.



Size Inches	Each
1/2 or 5/8x2 1/2	\$1.00
3/4, 7/8 or 1x3	1.50
1 1/2, 1 3/4 or 1 7/8x4	3.00
2x4	4.50
2 1/2, 2 3/4 or 3x4 1/2	5.50

Millers Falls Chucks with Round Sockets



Smoothly operating 1/2-inch capacity chuck with three hardened, spring activated jaws for holding round shanks, drills, and rods. Chuck backs threaded 1/2 inch 20 thread. Sockets accurately bored for round shanks.

No.	970	972
Each	\$1.90	1.90
Chuck Capacity.....inches	1/2	1/2
Fits Arbor.....inches	1/2	5/8
Weight.....ounces	16	17



Procnier Hi-Speed Tappers For Light Drill Presses

Special quill clamping adapters have been developed for attaching Procnier high speed tapping heads to drill presses which have short drill chuck tapers or Morse taper sockets in their spindles.

Rigid and accurate mounting is secured with fittings which clamp directly around the press quill.

Capacities Applying to the Heads, Listed Below

Size Head	CAPACITY, INCHES			Pipe Tap in. C.I., In.
	Brass	Cast Iron	Steel	
No. 1	0-1/4	0-1/4	0-3/16	1/8
No. 2	3/8-1/2	3/8-3/8	3/8-5/16	1/8
No. 3	1/4-3/4	1/4-5/8	1/4-1/2	1/8-1/4

No. EX

High Speed Tapping Heads for Delta Drill Presses

Style EX for Delta 14-Inch Drill Presses

No. 1-EX, Complete with Tru-Grip Tap Holder, Set of 4 Tap Collets, 2 Wrenches, and Drill Press Tap Head Spindle.....each **\$59.00**

No. 2-EX, Complete with Tru-Grip Tap Holder, Set of 7 Tap Collets, 2 Wrenches, and Drill Press Tap Head Spindle.....each **79.00**

Style EF for Delta 17-Inch Drill Presses

Driving power is supplied through a No. 2 Morse taper shank which engages the taper socket in drill press spindle.

No. 2-EF, Complete with Tru-Grip Tap Holder, Set of 7 Tap Collets, 2 Wrenches.....each **\$84.00**

No. 3-EF, Complete with Tru-Grip Tap Holder, any 4 Tap Collets, 2 Wrenches.....each **116.00**

High Speed Tappers for Atlas, Driver, Buffalo, Canedy-Otto Royal Drill Presses

No. 1-EW. Fits Atlas No. 60 and 70 Series and Driver 900 Series. Complete with Tru-Grip tap holder, set of 4 collets, 2 wrenches, and adapter.

No. 1-EW.....each **\$59.00**

No. 2-EW. Fits Atlas No. 60 and 70 Series and Driver 900 Series. Complete with Tru-Grip tap holder, set of 7 collets, 2 wrenches, and adapter.

No. 2-EW.....each **\$79.00**

No. 1-ER. Fits Buffalo 14 and 15-inch. Complete with Tru-Grip tap holder, set of 4 collets, 2 wrenches, and adapter.

No. 1-ER.....each **\$59.00**

No. 2-ER. Fits Buffalo 14 and 15-inch. Complete with Tru-Grip tap holder, set of 7 collets, 2 wrenches, and adapter.

No. 2-ER.....each **\$79.00**

No. 1-EZ. Fits Canedy-Otto Royal with drill chuck taper. Complete with Tru-Grip tap holder, set of 4 collets, 2 wrenches and adapter.

No. 1-EZ.....each **\$59.00**

No. 2-EZ. Fits Canedy-Otto Royal with drill chuck taper. Complete with Tru-Grip tap holder, set of 7 collets, 2 wrenches, and adapter.

No. 2-EZ.....each **\$79.00**

No. 1-EY. Fits Canedy-Otto Royal with No. 2 M. T. socket spindle. Complete with Tru-Grip tap holder, set of 4 collets, 2 wrenches, and adapter.

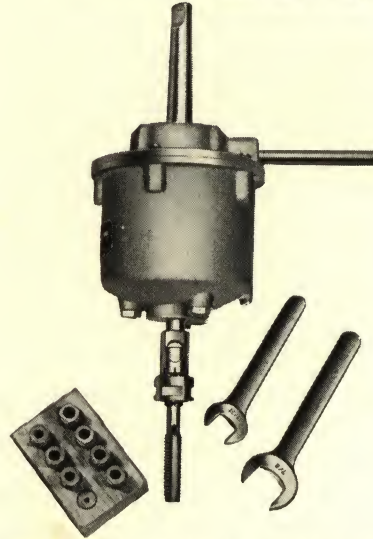
No. 1-EY.....each **\$59.00**

No. 2-EY. Fits Canedy-Otto Royal with No. 2 M.T. socket spindle. Complete with Tru-Grip tap holder set of 7 collets, 2 wrenches, and adapter.

No. 2-EY.....each **\$79.00**

Specify size and style of head and make of press.

Style E Procnier High Speed Tapping Attachments



The double-cone, corkfaced friction clutch provides a strong friction drive regulated by pressure on press spindle. Ball bearings.

Three-point balanced reversing mechanism reverses tap at twice the forward speed.

Operates smoothly on both through and bottom tapping.

The Tru-Grip tap holder is small and light incorporating the use of collets. The tap is held accurate and is driven by the square of its shank.

A set of collets and wrenches is furnished with each tool. In the No. 1 size, collets furnished will handle Nos. 2, 3, 4, 5, 6, 7, 8, 9, 10 and 1/4-inch taps. In the No. 2 size, collets furnished will handle Nos. 8, 9, 10, 1/4 inch, 5/16 inch, 3/8 inch (shank .381 diameter), 7/16 inch and 1/2 inch. In the No. 3 size any four collets are furnished, from 1/4 inch to 3/4 inch stand. Taps in 1/16's. Also 1/8 and 1/4 pipe taps.

The tap rotates in the tapping direction when idling.

Size No.	1	2	3
Each.....	\$50.00	69.00	100.00
M. T. Shanks.....	1-2	1-2-3	2-3-4
Tap Capacity, Steel.....	No. 0-3/16"	No. 8-5/16"	1/4"-1/2"
Tap Capacity, Brass.....	No. 0-1/4"	No. 8-1/2"	1/4"-3/4"

Style H Procnier Quick Change Chucks



STYLE H

By adapting this type of chuck, machine is converted to a semi-multiple, as any number of cutters may be used in it, and changes may be made without stopping machine. By lifting the collar, the collet with tool will drop out.

Chucks and collets made of steel, hardened and ground. Collet blanks are soft, not hardened and ground.

Size No.	Each	Morse Taper No.	O.D. of Chuck Inches	Wt. Lb.
1H	\$7.70	1-2	1 1/16	1 1/2
2H	8.80	1-2-3	1 3/4	1 1/8
3H	11.50	2-3-4	2 1/4	2 3/8
4H	17.50	3-4	2 5/8	4 3/8
5H	25.50	4-5	3 1/2	8

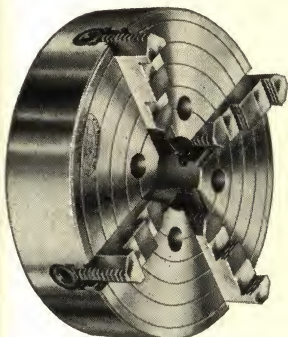
Collets		HA		HE		HD	
Size No.	O.D. of Collets In.	Each	Morse Taper No.	Each	Cap. of Tap In.	Each	Cap. Tap Size, In.
1	1 1/16	\$2.00	1	\$1.00	7/16	\$2.50	1/4
2	1 5/16	2.20	1-2	1.35	5/8	2.75	1/2
3	1 3/4	2.75	1-2-3	1.80	7/8	3.50	5/8
4	1 11/16	5.00	2-3-4	2.20	1 1/4	5.50	1
5	2 1/4	8.00	3-4-5	3.50	..	8.80	2

State size of square and round of tap shank in decimals.

No. 419 Union 4-Jaw Light Duty Independent Lathe Chucks

Semi-Steel Body
Solid Reversible Jaws

With Recesses for Adapter Plates



Designed for fine bench lathes, grinders and similar tools. Also used on dividing heads for precision milling machines.

Semi-steel body designed for strength and light weight.

Jaws are heat-treated.

All locating surfaces, as well as jaw bites, are ground in chuck body after assembly. They are hand-fitted to jaw slides.

Jaw screws are chrome nickel steel, heat-treated and ground. They are located in hardened and ground removable thrust bearings.

Adapter plate required.

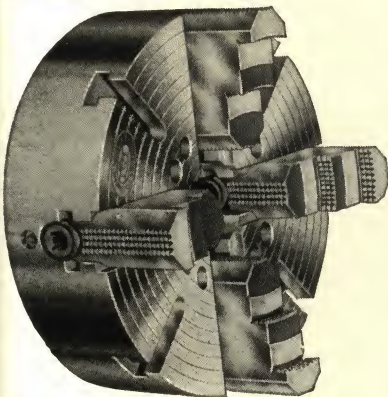
Ref. No.	Each	Size Inches	Diameter Inches	Face Plate Recess Inches	Diam. Center Hole Inches	Weight Pounds
41904	\$46.00	4	4	3 1/2	1	6
41905	48.00	5	5	3 1/2	1	7
41906	54.00	6	6	3 3/4	1 1/2	13
41907	100.00	7 1/2	7 1/2	3 3/4	1 5/8	18
41909	108.00	9	9	3 3/4	1 5/8	24
41910	124.00	10	10	5	1 5/8	30

Union 4-Jaw Medium Duty Independent Chucks

Semi-Steel Body—For Threaded Spindles

No. 518, 4-10 In.

No. 528, 12-36 In.



For general utility work. Any shape that lends itself to chucking can be held. Furnished with 4 solid reversible jaws.

Jaws are hardened and ground. Screws nickel-chrome steel, heat treated with steel thrust-bearings.

The 12-inch and larger sizes have T slots grease fittings and double serrated jaw bites.

When ordering chucks, state reference number. In independent chucks each jaw operates to or from the center separately. Adapter plate required.

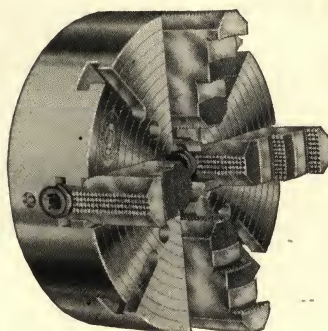
Ref. No.	Each	Size Inches	Diam. Inches	Center Hole In.	Face Plate Recess In.	Weight Pounds
51804	\$82.00	4	4 1/4	1 1/8	3 11/16	7
51805	88.00	5	5	1 1/8	3 11/16	10
51806	96.00	6	6	1 3/4	5	20
51808	112.00	8	8 1/4	2 1/8	5	40
51809	120.00	9	9	2 1/8	5	48
51810	142.00	10	10	2 1/8	5	70
52812	168.00	12	12	3	7	100
52815	202.00	15	15	4	8	150
52818	280.00	18	18	4 1/4	10	245
52821	352.00	21	21	4 1/4	10	300
52824	418.00	24	24	5	12	400
52828	532.00	28	28	6	12	550
52832	760.00	32	32	6	17 3/4	600
52836	960.00	36	36	6	17 3/4	850

No. 564 Union 4-Jaw Medium Duty Independent Chucks

For Threaded Spindle
Forged Steel Body

Solid Reversible Jaws

With Recesses for Adapter Plates



Inbuilt high pressure greasing system with fittings at periphery of chuck. Accessibility of this greasing system invites periodic lubrication. This lubrication helps to clear foreign matter from jaws and screws.

Chuck design permits removal of jaw and screw as unit (without turning screw) should chip become embedded between these parts. This is done by removing thrust plug from back of chuck.

To facilitate lifting and ease in mounting, tapped hole that accommodates ring bolt is properly located in periphery of chucks 12 inches and larger.

The 12-inch and larger chucks have T slots, grease fittings and double serrated jaw bites.

Solid, thick, forged high carbon steel bodies for all American standard spindles as well as for adapter plate mounting.

Adapter plate required.

Bodies 28-inch and larger made from high tensile steel castings, proportioned for great strength and heavily reinforced at points of stress.

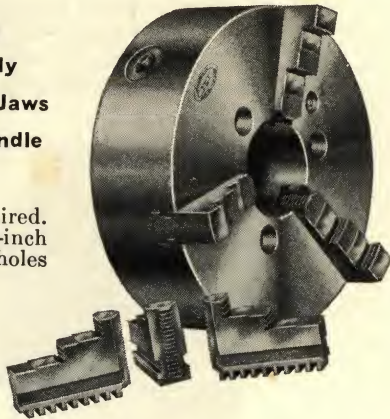
Removable, replaceable thrust plugs drilled to permit high pressure greasing from periphery of chuck.

No.	Each	Chuck Size In.	Diam. In.	Ctr. Hole In.	Face Plate Recess In.	Approx. Wt. Lb.
56406	\$160.00	6	6	1 1/2	5	22
56408	184.00	8	8 1/4	2 1/8	5	44
56409	202.00	9	9	2 1/8	5	46
56410	216.00	10	10	2 3/4	5	64
56412	274.00	12	12	3	7	106
56414	312.00	14	14	3	8	136
56415	336.00	15	15	3 1/2	8	184
56416	352.00	16	16	4 1/4	8	198
56418	424.00	18	18	4 1/4	10	260
56420	490.00	20	20	4 1/4	10	290
56421	516.00	21	21	4 1/4	10	323
56422	544.00	22	22	5	10	342
56424	612.00	24	24	5	12	497
56426	700.00	26	26	6	12	580
56428	832.00	28	28	6	12	645
56430	972.00	30	30	6	16 1/8	750
56432	1162.00	32	32	6	16 1/8	840
56434	1300.00	34	34	6	17 3/4	940
56436	1480.00	36	36	6	17 3/4	980
56442	2100.00	42	42	8	20	1750

No. 153 Union Universal 3-Jaw Medium Duty Geared Scroll Chucks

Self-Centering
*Semi-Steel Body
With Two Sets of Jaws
For Threaded Spindle

Adapter plate required.
The 3, 4, 5 and 6-inch sizes have tapped holes at rear of chuck.

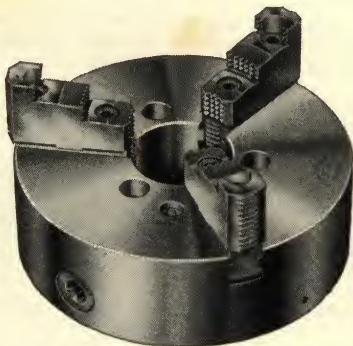


No.	Each	Chuck Size In.	Diam. In.	Face Plate Recess In.	Center Hole Inches	Approx. Wt. Lb.
15303	\$88.00	3	3 1/4	2 7/8	5/8	4
15304	100.00	4	4 3/8	3	1	7
15305	108.00	5	5 1/4	3 11/16	1 1/2	13
15306	124.00	6	6 3/16	4 3/4	1 9/16	22
15308	154.00	8	8 1/4	6 3/8	2 1/8	50
15310	184.00	10	10	7	3	74
15312	226.00	12	12	7	3	102
15315	322.00	15	15	8	3 1/4	175
15318	570.00	18	18	10	4 1/4	276
15321	750.00	21	21	11	4 1/2	341
15324	976.00	24	24	14	4 1/2	456

*The 3, 4, 5 and 6-inch sizes furnished with steel body.

No. 163 Union 3-Jaw Geared Scroll Lathe Chucks

Self-Centering—*Semi-Steel Body
With 2-Piece Reversible Top Jaws

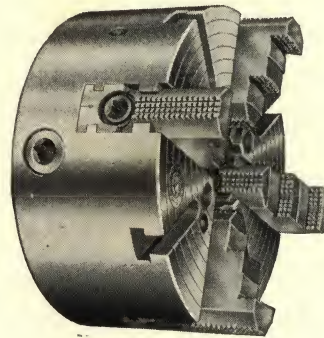


A solid iron shell scroll chuck (self centering), with reversible top jaws. The shell is in one piece, making a solid substantial chuck. *The 4, 5 and 6-inch sizes with steel body.

Ref. No.	Each	Size Inches	Diameter Inches	Face Plate Recess Inches	Center Hole Inches	Weight Pounds
16304	\$100.00	4	4 3/8	3	1	8
16305	108.00	5	5 1/4	3 11/16	1 1/4	14
16306	124.00	6	6 3/16	4 3/4	1 9/16	22
16308	154.00	8	8 1/4	6 3/8	2 1/8	50
16310	184.00	10	10	7	3	74
16312	226.00	12	12	7	3	102
16315	322.00	15	15	8	3 1/4	175
16318	570.00	18	18	10	4 1/4	276
16321	750.00	21	21	11	4 1/2	341
16324	976.00	24	24	14	4 1/2	456

Union Universal Geared Scroll Combination Independent Chucks

Self-Centering
Forged Steel Body
Solid Reversible Jaws



For holding eccentric or odd-shaped work pieces in quantity production. After first piece is located by using independent action, subsequent pieces are chucked and released by using pinions only.

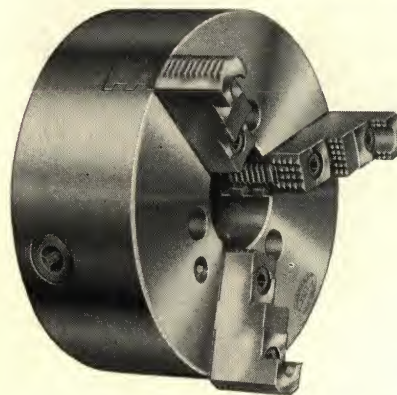
Adapter plate required. Body of chuck machined from solid steel forging. Independent screws have Union Duplex Thrust area to conform to double bearing area in cups. To facilitate lifting and ease in mounting, tapped hole that accommodates ring bolt is located in periphery of chucks 10 inches and larger.

No. S-584, 4-Jaw

No. S-583, 3-Jaw				No. S-584, 4-Jaw				Face Plate Recess In.	Ctr. Hole In.
Chuck Size In.	No.	Each	Appr. Wt. Lb.	No.	Each	Appr. Wt. Lb.	Diam. In.		
4	.....	.....	.....	S58404	\$180.00	11	4 3/8	3	1
5	.....	.....	.....	S58405	196.00	15	5 1/4	3 11/16	1 1/4
6	S58306	\$202.00	24	S58406	226.00	23	6 3/16	4 3/4	1 9/16
8	S58308	332.00	60	S58408	372.00	70	8 1/4	6 3/8	2 1/8
10	S58310	386.00	75	S58410	428.00	100	10	7	3
12	S58312	460.00	125	S58412	520.00	125	12	7	3
15	S58315	562.00	205	S58415	640.00	305	15	8	3 1/4
18	S58318	976.00	490	S58418	1096.00	490	18	10	5
21	S58321	1230.00	535	S58421	1350.00	535	21	11	4 1/2
24	S58324	1516.00	625	S58424	1650.00	625	24	14	8

No. S-179 Union Universal 3-Jaw Double-Rib Scroll Chucks

Steel Body
2-Piece Reversible Jaws
American Standard Top Jaws



For small and medium turret lathes and high production lathes.

Solid forged steel body with four jaw locks and four corresponding jaw ways.

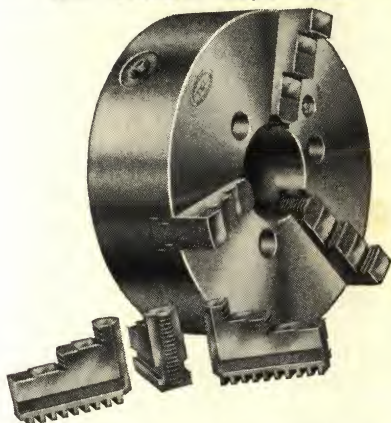
Adapter plate required.

Heat-treated scrolls. Double serrated jaws.

No.	Each	Chuck Size In.	Diam. In.	Face Plate Recess In.	Ctr. Hole In.	Approx. Wt. Lb.
*S17906	\$149.00	6	6 5/16	4 3/4	1 9/16	28
S17908	259.00	8	8 1/4	6 3/8	2 1/8	65
S17910	324.00	10	10	7	3	85
S17912	403.00	12	12	7	3	130
S17915	538.00	15	15	8	3 1/4	205
S17918	900.00	18	18	10	4 1/4	280
S17921	1207.00	21	21	11	4 1/2	425
S17924	1548.00	24	24	14	4 1/2	503
S17928	2100.00	28	28	14	6	646

*With tapped holes at rear of chuck.

**No. 123 Union Universal 3-Jaw Medium Duty
Geared Scroll Chucks
For Threaded Spindles
Steel Body—With Two Sets of Jaws
With Recesses for Adapter Plates**

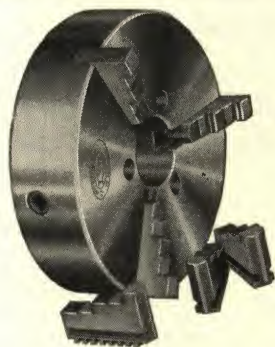


Forged steel body. Adapter plate required. The 3, 4, 5, and 6-inch sizes have tapped holes at rear of chuck.

No.	Each	Chuck Size In.	Diam. In.	Face Plate Recess, In.	Center Hole In.	Approx. Wt. Lb.
12303	\$88.00	3	3 1/4	2 7/8	5/8	5
12304	100.00	4	4 3/8	3	1	8
12305	108.00	5	5 1/4	3 11/16	1 1/4	14
12306	124.00	6	6 5/16	4 3/4	1 9/16	25
12308	216.00	8	8 1/4	6 3/8	2 1/8	50
12310	270.00	10	10	7	3	74
12312	336.00	12	12	7	3	102
12315	448.00	15	15	8	3 1/4	175
12318	750.00	18	18	10	4 1/4	276
12321	1006.00	21	21	11	4 1/2	341
12324	1290.00	24	24	14	4 1/2	456

**No. 253 Union 3-Jaw Universal
Lightweight Geared Scroll Chucks**

**Self-Centering—Semi-Steel Body
With Two Sets of Jaws—Three Pinions
With Flat Recesses for Adapter Plates**

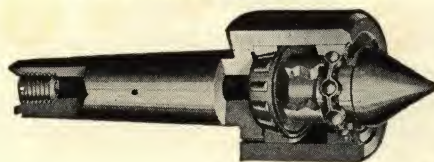


Standard equipment on several precision bench lathes and light dividing heads. For precision machines with threaded spindles. Chuck is thinner and parts lighter than Union standard medium duty chuck, but it is precision made.

Final grinding of jaw steps and bites is done in chuck body after assembly. Adapter plate required. Tapped holes in rear of 4-inch chuck only.

Ref. No.	25303	25304	25305	25306
No. 253, with Two Sets of Jaws.....	each \$48.00	54.00	60.00	72.00
Size.....inches	3	4	5	6
Diameter.....inches	3 1/16	4 1/16	5	6
Center Hole.....inches	3/4	7/8	1 3/8	1 1/2
Face Plate Recess.....inches	2 7/8	3 3/4	3 3/4	3 3/4
Approx. Weight.....lb.	2 1/4	4 1/2	7	11

**Ideal Live Centers
With Interchangeable Inserts**



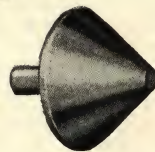
Male Insert



Plain Female Insert



Female Insert with Lands



Male Pipe Insert

Triple duty tool; four interchangeable inserts. Reduces production cost on lathes, screw machines, millers, etc.

Turns heavy loads rapidly. Machines take deep cuts at high speeds because center rotates with work.

Interchangeable inserts of all kinds of centered and un-centered work save set-up time. Standard sizes No. 1 to No. 5 Morse Taper.

Special bearing arrangement, plus precision workmanship assures accurate turning, even after long service. Only high precision type bearings used. All parts hardened, ground.

Center No.	Each	Size No.	Morse Taper No.	Center No.	Each	Size No.	Morse Taper No.
47-001	\$30.45	1MA	1	47-013	\$53.50	4MC	4
47-002	30.45	2MA	2	47-014	53.50	5MC	5
47-003	30.45	3MA	3	47-026	53.50	1 1/2 SC	*
47-008	37.90	3MB	3	47-027	53.50	1 3/4 SC	†
47-009	37.90	4MB	4				

*1 1/2-inch straight shank. †1 3/4-inch straight shank.

Male Inserts

No.	Each	For Center	Pipe Cap., In.
K-1051-1	\$4.65	A Size Center	.....
K-1053-1	5.35	B Size Center	.....
K-1052-1	6.50	C Size Center	.....

Plain Female Inserts

No.	Each	For Center	Pipe Cap., In.
K-1056-2	\$4.65	A Size Center	3/8 to 3/4
K-1057-2	5.35	B Size Center	3/8 to 1
K-1058-2	6.50	C Size Center	3/8 to 1 1/4

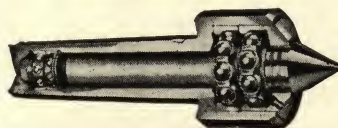
Female Insert with Lands

No.	Each	For Center	Pipe Cap., In.
K-1059-2	\$9.15	A Size Center	3/8 to 3/4
K-1060-2	10.70	B Size Center	3/8 to 1
K-1061-2	12.85	C Size Center	3/8 to 1 1/4

Pipe Inserts

No.	Each	For Center	Pipe Cap., In.
K- 993-3	\$16.95	B Size Center	1/2 to 3
K-1024-1	18.30	C Size Center	1/2 to 3

Heavy Duty Series



Built to carry heavy loads.

Accuracy to within .0005 inch is made possible through use of special bearing construction and precision manufacturing methods. Two sets of angular contact ball bearings are used with the front bearings preloaded by Belleville springs. The rear bearings are mounted back to back, while the front bearings are in tandem. Each bearing takes approximately the same load.

Bearing sealing rings afford positive protection against entrance of chips, dust, coolant, and foreign matter.

Point of center ground in its own bearings.

No.	Each	Size No. Morse Taper	LOAD AT 100 RPM.	Ship- Weight Pounds
47-031	\$67.00	4-MH	1200	1800
47-029	87.95	5-MH	2750	4125
47-028	131.90	6-MH	5750	8500
47-030	250.25	7-MH	9000	13250

No. 535 Standard Lathe Centers

High Speed Steel

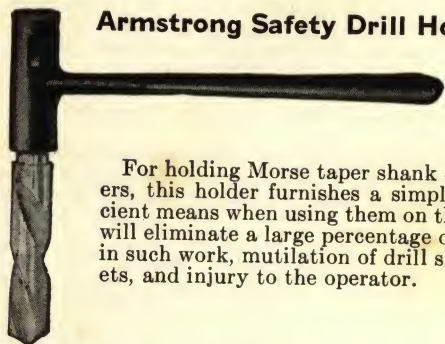


The point of this lathe center is **high speed** steel. It will hold its accuracy of angle and will not burn off in work revolved at a high rate of speed. Shank is ground to standard taper.

The included angle of the point is 60°, ground true. Other angles can be made to order.

Std. Taper Shank No.	0	1	2	3	4	5
No. 535.....each	\$1.94	2.27	3.24	4.22	6.17	12.03
Lgth. Overall.....in.	3 ³ / ₃₂	3 ⁵ / ₁₆	4 ⁹ / ₁₆	5 ³ / ₄	7 ⁵ / ₁₆	9 ³ / ₁₆
Shank Depth.....in.	2 ¹ / ₃₂	2 ⁷ / ₁₆	2 ⁹ / ₁₆	3 ¹ / ₁₆	4 ⁵ / ₈	5 ⁷ / ₈

Armstrong Safety Drill Holders



For holding Morse taper shank drills and reamers, this holder furnishes a simple, safe and efficient means when using them on the lathe. Its use will eliminate a large percentage of drill breakage in such work, mutilation of drill shanks and sockets, and injury to the operator.

No.....	1	2	3	4	5
Each.....	\$4.57	5.65	7.45	12.18	22.63
M.T. Shank No...	1	2	3	4	5
Holds Drill.....in.	1 ¹ / ₁₆ - ⁹ / ₁₆	3 ⁷ / ₆₄ -2 ²⁹ / ₃₂	5 ⁹ / ₆₄ -1 ¹ / ₄	1 ¹⁷ / ₆₄ -2	2 ¹ / ₆₄ -3

Armstrong Plain Drill Holders



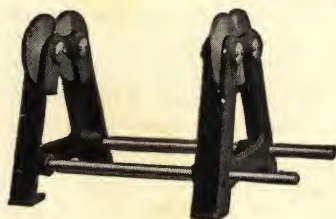
For screw machines and turret lathes. With one set screw for holding drills, reamers, counterbores, hollow mills, and flat cutters.

Hardened all over. Shank and bushing hole are ground.

Each tool is boxed separately and price includes wrench.

No.	Each	DIMEN. SHANK, IN.			DIMEN. HEAD, IN.			Ex- treme Lgth. In.	Wt. Lb. Each
		O.D.	Diam. Hole	Lgth.	O.D.	Diam. Hole	Depth Hole		
600	\$10.95	5 ⁵ / ₈	1 ¹³ / ₃₂	2	1 ³ / ₄	3 ³ / ₄	3 ³ / ₄	3	3 ³ / ₄
601	10.95	3 ³ / ₄	1 ¹³ / ₃₂	2	1 ³ / ₄	3 ³ / ₄	3 ³ / ₄	3	7 ⁷ / ₈
602	13.02	7 ⁷ / ₈	1 ¹⁵ / ₃₂	2 ³ / ₈	2	7 ⁷ / ₈	7 ⁷ / ₈	3 ¹ / ₂	1 ¹ / ₄
603	15.09	1	1 ¹⁷ / ₃₂	2 ³ / ₄	2 ¹ / ₄	1	1	4	1 ³ / ₄
604	17.35	1 ¹ / ₄	1 ²⁵ / ₃₂	3 ¹ / ₂	2 ⁷ / ₈	1 ¹ / ₄	1 ¹ / ₄	5 ¹ / ₈	3 ³ / ₄
605	21.67	1 ¹ / ₂	1 ¹ / ₃₂	4 ³ / ₈	3	1 ¹ / ₂	1 ¹ / ₂	6 ¹ / ₄	5

Anderson Improved Balancing Ways



Improved method of balancing rotating parts for checking, straightening and truing operations, from a crankshaft to a turbine rotor. Requires no special leveling, no adjustment and no centers.

Equipped with glass-hard spindles, chilled

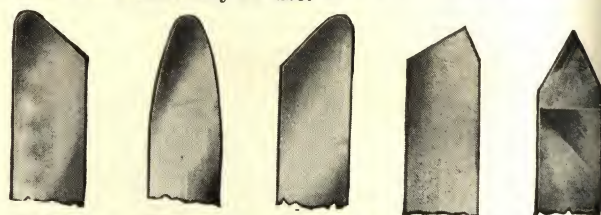
iron discs and especially sensitive ball bearings.

Diam. Work.....in.	20	40	60	72	96
Each.....	\$52.00	68.00	85.00	425.00	600.00
Greatest Dist. bet. Stds.....in.	20	30	30	66	88
Capacity.....lb.	1,000	2,000	2,000	5,000	10,000
Ship. Wt.....lb.	45	80	150	350	650

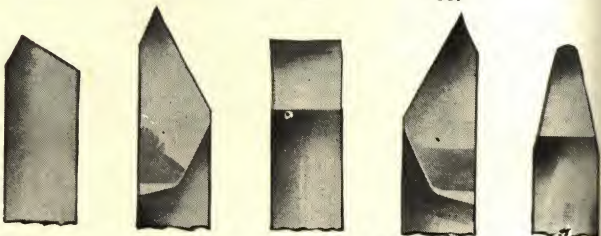
Armstrong Tool Holder Cutters

High Speed Steel

Made from heat treated **high speed** steel, ground to form shown and ready for use.



1-Left Hand Turning Tool
2-Round Nose Turning Tool
3-Right Hand Turning Tool
4-Left Hand Corner Tool
5 Threading Tool



6-Right Hand Corner Tool
7-Left Hand Side Tool
8 Square Nose Tool
9-Right Hand Side Tool
10 Brass Tool

Finished form cutters are boxed in sets of ten cutters, shapes 1 to 10. When ordering sets, please specify catalog numbers. When ordering single cutters, order by shape number.

Set No.....	0415	0405	0406	0407	0408
Cutters 1 to 10...per set	\$7.54	\$11.32	\$16.35	\$25.15	\$36.48
Individual Cutter...each	.78	1.18	1.65	2.52	3.70
Size Cutter...sq. in.	1 ¹ / ₄	3 ⁵ / ₁₆	3 ³ / ₈	7 ¹ / ₁₆	1 ¹ / ₂
Length.....inch	2 ¹ / ₈	2 ³ / ₄	3 ¹ / ₄	3 ³ / ₄	4 ¹ / ₄

Armstrong Cutter Blades

High Speed Steel

For Cutting Off and Side Tools
Finished



Made from **high speed** steel, are heat treated, hardened, and carefully ground to proper size for use in Armstrong tool holders.

When ordering blades, specify size and tool number.

Bevel—For Cutting Off Tools

Packed 12 in a box, sizes ³/₃₂x¹/₂-inch to ³/₁₆x1-inch, inclusive. Other sizes packed as ordered.

No.	High Speed Each	Size Inches	For Tool Nos.	Length Inches
2401	\$1.39	3 ³ / ₃₂ x 1 ¹ / ₂	19, 29-L, 29-R	4 ¹ / ₂
2402	1.56	3 ⁵ / ₃₂ x 5 ⁵ / ₈	20, 30-L, 30-R	5
2403	2.16	1 ¹ / ₈ x 3 ³ / ₄	21, 31-L, 31-R	6
2404	3.12	1 ¹ / ₈ x 7 ⁷ / ₈	22, 32-L, 32-R	7
2405	5.11	5 ⁷ / ₁₆ x1	23, 33-L, 33-R	8
2406	6.90	3 ¹ / ₁₆ x1 ¹ / ₈	24, 34-L, 34-R	9
2407	10.05	1 ¹ / ₄ x1 ¹ / ₄	25, 35-L, 35-R	10
2408	11.70	1 ¹ / ₄ x1 ³ / ₈	26, 36-L, 36-R	11

Blades listed for tools Nos. 20, 30-L, etc., are also for use in spring cutting off tools Nos. S-30, S-30-L, etc.

Special Shape—For Side Tools

No.	High Speed Each	Size Inches	For Tool Nos.	Length Inches
2511	\$1.39	1 ¹ / ₈ x 1 ¹ / ₂	69-L, 69-R, 79-L, 79-R	4 ¹ / ₂
2512	2.16	5 ⁵ / ₃₂ x 5 ⁵ / ₈	70-L, 70-R, 80-L, 80-R	5
2513	3.34	3 ¹ / ₁₆ x 3 ³ / ₄	71-L, 71-R, 81-L, 81-R	6
2514	5.47	1 ¹ / ₄ x 7 ⁷ / ₈	72-L, 72-R, 82-L, 82-R	7
2515	8.10	5 ⁷ / ₁₆ x1	73-L, 73-R, 83-L, 83-R	8
2516	11.88	3 ¹ / ₈ x1 ¹ / ₄	74-L, 74-R, 84-L, 84-R	9
2517	15.40	1 ¹ / ₂ x1 ³ / ₈	75-L, 75-R, 85-L, 85-R	10
2518	19.89	1 ¹ / ₂ x1 ¹ / ₂	76-L, 76-R, 86-L, 86-R	11

Armstrong Bits

High Speed Steel

Unfinished—Hardened



Bits require grinding only to make them ready for use in Armstrong Tool Holders.

Squares for Turning and Boring Tools



Squares for Turning Tools

No.	Each	Size Inches	Std. Pkg.	No.	Each	Size Inches	Std. Pkg.
2301	\$.22	$\frac{3}{16} \times 1\frac{3}{4}$	12	2307	\$3.30	$\frac{5}{8} \times 5$	6
2302	.28	$\frac{1}{4} \times 2\frac{1}{8}$	12	2308	5.40	$\frac{3}{4} \times 5\frac{3}{4}$	4
2303	.48	$\frac{5}{16} \times 2\frac{3}{4}$	12	2309	8.20	$\frac{7}{8} \times 6\frac{1}{2}$	4
2304	.78	$\frac{3}{8} \times 3\frac{1}{4}$	12	2310	11.70	$1 \times 7\frac{1}{4}$	2
2305	1.26	$\frac{7}{16} \times 3\frac{3}{4}$	12	2311	15.91	$1\frac{1}{8} \times 8$	2
2306	1.81	$\frac{1}{2} \times 4\frac{1}{4}$	6	2313	29.52	$1\frac{1}{4} \times 9\frac{1}{2}$	2

Squares for Boring Tools

No.	Each	Size Inches	Std. Pkg.	No.	Each	Size Inches	Std. Pkg.
2321	\$.13	$\frac{3}{16} \times 1$	12	2333	\$1.96	$\frac{5}{8} \times 2\frac{3}{4}$	6
2322	.13	$\frac{3}{16} \times 1\frac{1}{4}$	12	2334	2.53	$\frac{5}{8} \times 4$	6
2323	.18	$\frac{1}{4} \times 1\frac{1}{4}$	12	2335	3.85	$\frac{3}{4} \times 3\frac{1}{8}$	4
2324	.24	$\frac{1}{4} \times 1\frac{3}{4}$	12	2336	4.78	$\frac{3}{4} \times 5$	4
2325	.34	$\frac{5}{16} \times 1\frac{1}{2}$	12	2368	.13	$\frac{3}{16} \times 1\frac{1}{8}$	12
2326	.42	$\frac{5}{16} \times 2\frac{1}{4}$	12	2369	.24	$\frac{1}{4} \times 1\frac{1}{2}$	12
2327	.58	$\frac{3}{8} \times 1\frac{7}{8}$	12	2370	.42	$\frac{5}{16} \times 1\frac{7}{8}$	12
2328	.70	$\frac{3}{8} \times 2\frac{5}{8}$	12	2371	.70	$\frac{3}{8} \times 2\frac{1}{4}$	12
2329	.78	$\frac{7}{16} \times 2\frac{1}{8}$	12	2372	1.06	$\frac{1}{2} \times 2\frac{1}{2}$	12
2330	1.06	$\frac{1}{2} \times 2\frac{3}{8}$	12	2373	1.39	$\frac{1}{2} \times 2\frac{13}{16}$	6
2331	1.12	$\frac{1}{2} \times 2\frac{3}{8}$	6	2374	2.53	$\frac{5}{8} \times 3\frac{3}{8}$	6
2332	1.39	$\frac{1}{2} \times 3\frac{1}{4}$	6	2375	4.78	$\frac{3}{4} \times 4\frac{1}{16}$	4

Flats for Planer and Gang Planer Tools



No.	Each	Size, Inches	Std. Pkg.	No.	Each	Size, Inches	Std. Pkg.
2351	\$.48	$\frac{1}{4} \times 3\frac{3}{8} \times 2\frac{1}{2}$	12	2355	\$4.69	$\frac{5}{8} \times 7\frac{7}{8} \times 5$	6
2352	.78	$\frac{3}{16} \times 1\frac{1}{2} \times 3$	12	2356	7.02	$\frac{3}{4} \times 1 \times 6$	4
2353	1.12	$\frac{3}{8} \times 1\frac{1}{2} \times 3\frac{1}{2}$	12	2357	11.50	$\frac{7}{8} \times 1\frac{1}{2} \times 7$	4
2354	2.71	$\frac{1}{2} \times 3\frac{1}{4} \times 4\frac{1}{4}$	6				

Bevels for Cutting-Off Tools



Standard package, 1.

Special Shapes for Side Tools



Standard package, 1.

No.	Each	Size, Inches	No.	Each	Size, Inches
2441	\$.58	$\frac{3}{32} \times \frac{1}{2} \times 4\frac{1}{2}$	2461	\$.64	$\frac{1}{8} \times \frac{1}{2} \times 4\frac{1}{2}$
2442	.58	$\frac{3}{32} \times \frac{5}{8} \times 5$	2462	.70	$\frac{5}{16} \times \frac{5}{8} \times 5$
2443	.90	$\frac{1}{8} \times \frac{3}{4} \times 6$	2463	1.18	$\frac{5}{16} \times \frac{3}{4} \times 6$
2444	1.33	$\frac{1}{8} \times \frac{7}{8} \times 7$	2464	2.02	$\frac{1}{4} \times 1 \times 7$
2445	2.46	$\frac{3}{16} \times 1 \times 8$	2465	3.10	$\frac{1}{4} \times 1 \times 8$
2446	3.07	$\frac{3}{16} \times 1\frac{1}{8} \times 9$	2466	4.78	$\frac{7}{16} \times 1\frac{1}{4} \times 9$
2447	5.07	$\frac{1}{4} \times 1\frac{1}{4} \times 10$	2467	6.81	$\frac{1}{2} \times 1\frac{1}{2} \times 10$
2448	5.95	$\frac{1}{4} \times 1\frac{3}{8} \times 11$	2468	10.92	$\frac{1}{2} \times 1\frac{1}{2} \times 11$

NOTE.—Bevel and special shapes are rolled to approximate size, but require grinding on edges to bring to exact size fitting Armstrong Cutting Off and Side Tool Holders.

Armide Cutters

For Use in Armstrong Tool Holders



Right Hand



Left Hand



Square Nose



80° Nose

Armide is an improved carbide alloy cutting metal, approaching the diamond in hardness. Remains cool and securely brazed because of its extremely low thermal conductivity. Its edge stays smooth and clean, for **Armide** will not alloy with steel or iron. On ordinary operations the cutter permits greatly increased speeds and extends the tool life from 10 to 200 times that of high speed steel.

Furnished in two grades: **Armide Red**, for steel cutting, and **Armide Gray**, for all other materials. Specify which type, otherwise **Armide Gray** will be furnished.

Right Hand and Left Hand

Square Shank											
— Right Hand —		— Left Hand —		Each	SHANK SIZE, IN.		— TIP SIZE, IN. —		Std. Pkg.		
Trade No.	Unit No.	Trade No.	Unit No.		Width	Ht.	Lgth.	Thick.		Width	Lgth.
AR-4	M-41	AL-4	M-71	\$1.51	$\frac{1}{4}$	$\frac{1}{4}$	$1\frac{3}{4}$	$\frac{3}{32}$	$\frac{3}{16}$	$\frac{5}{16}$	6
AR-5	M-42	AL-5	M-72	1.51	$\frac{5}{16}$	$\frac{5}{16}$	$2\frac{1}{4}$	$\frac{3}{32}$	$\frac{1}{4}$	$\frac{1}{2}$	6
AR-6	M-43	AL-6	M-73	1.77	$\frac{3}{8}$	$\frac{3}{8}$	$2\frac{1}{2}$	$\frac{3}{32}$	$\frac{1}{4}$	$\frac{1}{2}$	6
AR-7	M-44	AL-7	M-74	2.10	$\frac{7}{16}$	$\frac{7}{16}$	3	$\frac{3}{32}$	$\frac{1}{4}$	$\frac{1}{2}$	4
AR-8	M-45	AL-8	M-75	2.47	$\frac{1}{2}$	$\frac{1}{2}$	$3\frac{1}{2}$	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	4
AR-10	M-47	AL-10	M-77	3.04	$\frac{5}{8}$	$\frac{5}{8}$	4	$\frac{5}{32}$	$\frac{3}{8}$	$\frac{3}{4}$	4
AR-12	M-48	AL-12	M-78	3.60	$\frac{3}{4}$	$\frac{3}{4}$	$4\frac{1}{2}$	$\frac{3}{16}$	$\frac{7}{16}$	$1\frac{3}{16}$	2

Heavy Duty

Right-Hand No.	Left-Hand No.	Each	SHANK SIZE, IN.		TIP SIZE, IN.		Pkg.
			Width	Ht.	Lgth.	Thick. Width. Lgth.	Qty.
H-M-41	H-M-71	\$3.30	$\frac{1}{4}$	$\frac{3}{8}$	$1\frac{3}{4}$	$\frac{3}{32}$ $\frac{3}{16}$ $\frac{5}{16}$	6
H-M-42	H-M-72	3.51	$\frac{5}{16}$	$\frac{7}{16}$	$2\frac{1}{4}$	$\frac{3}{32}$ $\frac{1}{4}$ $\frac{1}{2}$	6
H-M-43	H-M-73	4.35	$\frac{3}{8}$	$\frac{3}{4}$	$2\frac{1}{2}$	$\frac{3}{32}$ $\frac{1}{4}$ $\frac{1}{2}$	6
H-M-44	H-M-74	4.84	$\frac{7}{16}$	$\frac{9}{16}$	3	$\frac{3}{32}$ $\frac{1}{4}$ $\frac{1}{2}$	4
H-M-45	H-M-75	6.03	$\frac{1}{2}$	$\frac{2}{4}$ $\frac{1}{8}$	$3\frac{1}{2}$	$\frac{1}{8}$ $\frac{1}{2}$ $\frac{5}{8}$	4
H-M-47	H-M-77	7.20	$\frac{5}{8}$	$\frac{3}{4}$	4	$\frac{5}{32}$ $\frac{3}{8}$ $\frac{3}{4}$	4
H-M-48	H-M-78	10.32	$\frac{3}{4}$	1	$4\frac{1}{2}$	$\frac{3}{16}$ $\frac{7}{16}$ $1\frac{3}{16}$	2

Square Nose Cutters

		Square Shank									
Trade No.	Unit No.	Each	SHANK SIZE, IN.			TIP SIZE, IN.				Pkg. Qty.	
			Width	Ht.	Lgth.	Thick.	Width	Lgth.	Radius		
C-4	M-11	\$1.71	$\frac{1}{4}$	$\frac{1}{4}$	$1\frac{3}{4}$	$\frac{1}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{1}{32}$	6	
C-5	M-12	1.71	$\frac{5}{16}$	$\frac{5}{16}$	$2\frac{1}{4}$	$\frac{3}{32}$	$\frac{3}{16}$	$\frac{3}{8}$	$\frac{1}{32}$	6	
C-6	M-13	1.77	$\frac{3}{8}$	$\frac{3}{8}$	$2\frac{1}{2}$	$\frac{3}{32}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{16}$	6	
C-7	M-14	2.14	$\frac{7}{16}$	$\frac{7}{16}$	3	$\frac{3}{32}$	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{16}$	4	
C-8	M-15	2.47	$\frac{1}{2}$	$\frac{1}{2}$	$3\frac{1}{2}$	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{16}$	4	
C-10	M-17	3.52	$\frac{5}{8}$	$\frac{5}{8}$	4	$\frac{5}{32}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{3}{32}$	4	
C-12	M-18	4.54	$\frac{3}{4}$	$\frac{3}{4}$	$4\frac{1}{2}$	$\frac{3}{16}$	$\frac{3}{4}$	$\frac{5}{8}$	$\frac{3}{32}$	2	

Heavy Duty

No.		SHANK SIZE, IN.			TIP SIZE, IN.			Pkg.
Each		Width	Ht.	Lgth.	Thick.	Width	Lgth.	Radius Qty.
H-M-11	\$3.30	$\frac{1}{4}$	$\frac{1}{8}$	$1\frac{3}{4}$	$\frac{1}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{1}{32}$ 6
H-M-12	3.51	$\frac{5}{16}$	$\frac{3}{16}$	$2\frac{1}{4}$	$\frac{3}{32}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{32}$ 6
H-M-13	4.35	$\frac{3}{8}$	$\frac{1}{2}$	$2\frac{1}{2}$	$\frac{3}{32}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{16}$ 6
H-M-14	4.84	$\frac{7}{16}$	$\frac{9}{16}$	3	$\frac{3}{32}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{1}{16}$ 4
H-M-15	6.03	$\frac{1}{2}$	$\frac{3}{4}$	$3\frac{1}{2}$	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{1}{16}$ 4
H-M-17	7.20	$\frac{5}{8}$	$\frac{7}{8}$	4	$\frac{5}{32}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{3}{32}$ 4
H-M-18	10.33	$\frac{3}{4}$	1	$4\frac{1}{2}$	$\frac{3}{16}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{32}$ 2

80° Nose Cutters

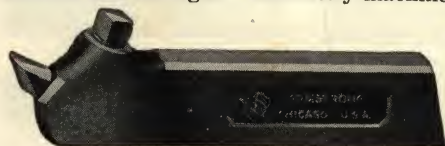
Square Shank										
Trade No.	Unit No.	Each	SHANK SIZE, IN.			TIP SIZE, IN.				Pkg. Qty.
			Width	Ht.	Lgth.	Thick.	Width	Lgth.	Radius	
D-4	M-121	\$1.81	$\frac{1}{4}$	$\frac{1}{4}$	$1\frac{3}{4}$	$\frac{1}{16}$	$\frac{1}{4}$	$\frac{1}{16}$	$\frac{1}{32}$	6
D-5	M-122	1.81	$\frac{5}{16}$	$\frac{5}{16}$	$2\frac{1}{4}$	$\frac{3}{32}$	$\frac{1}{4}$	$\frac{1}{16}$	$\frac{1}{32}$	6
D-6	M-123	2.10	$\frac{3}{8}$	$\frac{3}{8}$	$2\frac{1}{2}$	$\frac{3}{32}$	$\frac{1}{4}$	$\frac{1}{16}$	$\frac{1}{16}$	6
D-7	M-124	2.55	$\frac{7}{16}$	$\frac{7}{16}$	3	$\frac{3}{32}$	$\frac{1}{4}$	$\frac{1}{16}$	$\frac{1}{16}$	4
D-8	M-125	2.64	$\frac{1}{2}$	$\frac{1}{2}$	$3\frac{1}{2}$	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{16}$	$\frac{1}{16}$	4
D-10	M-127	3.60	$\frac{5}{8}$	$\frac{5}{8}$	4	$\frac{5}{32}$	$\frac{3}{8}$	$\frac{3}{16}$	$\frac{3}{32}$	4
D-12	M-128	4.54	$\frac{3}{4}$	$\frac{3}{4}$	$4\frac{1}{2}$	$\frac{3}{16}$	$\frac{3}{4}$	$\frac{3}{16}$	$\frac{3}{32}$	2

Heavy Duty

No.	Each	SHANK SIZE, IN.			TIP SIZE, IN.			Pkg.	
		Width	Ht.	Lgth.	Thick.	Width	Lgth. RadiusQty.		
H-M-121	\$3.69	$\frac{1}{4}$	$\frac{3}{8}$	$1\frac{3}{4}$	$\frac{1}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{1}{32}$	6
H-M-122	3.90	$\frac{5}{16}$	$\frac{7}{8}$	$2\frac{1}{4}$	$\frac{3}{32}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{32}$	6
H-M-123	5.07	$\frac{3}{8}$	$1\frac{1}{2}$	$2\frac{1}{2}$	$\frac{3}{32}$	$\frac{3}{8}$	$1\frac{1}{2}$	$\frac{1}{16}$	6
H-M-124	5.28	$\frac{7}{16}$	$\frac{9}{16}$	3	$\frac{3}{32}$	$\frac{7}{16}$	$1\frac{1}{2}$	$\frac{1}{16}$	4
H-M-125	6.48	$\frac{1}{2}$	$\frac{3}{4}$	$3\frac{1}{2}$	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{1}{16}$	4
H-M-127	7.38	$\frac{5}{8}$	$\frac{1}{8}$	4	$\frac{5}{32}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{3}{32}$	4
H-M-128	10.89	1		$4\frac{1}{2}$	$\frac{3}{16}$	3	$\frac{3}{4}$	$\frac{3}{32}$	2

Armstrong Tool Holders

Holder is drop forged from a special steel which combines stiffness and strength. Accurately machined, heat treated and hardened.



Straight Shank



Left Hand, Offset



Right Hand, Offset

wrench and one **high speed** cutter bit.

Straight Shank	No. Left Hand	Right Hand	Complete Tool Each	Extra High Speed Cutter Bits Each	Size Holder Inches	Size Cutter In. Sq.
000-S	000-L	000-R	\$7.14	\$2.22	5/16x 1/2x 4	3/16
00-S	00-L	00-R	7.14	.22	5/16x 3/4x 4 1/2	3/16
0-S	0-L	0-R	7.57	.28	3/8x 1/2x 5	1/4
1-S	1-L	1-R	8.65	.28	1/2x 1/2x 6	3/16
2-S	2-L	2-R	10.63	.78	5/8x 1/2x 7	3/8
3-S	3-L	3-R	14.38	1.25	3/4x 1/2x 8	1/2
4-S	4-L	4-R	18.30	1.81	7/8x 1/2x 9	1/2
5-S	5-L	5-R	26.93	3.30	1 x 2 x 11	5/8
6-S	6-L	6-R	35.94	5.40	1 1/4x 2 1/4x 13	3/4
7-S	7-L	7-R	62.44	8.20	1 1/2x 2 1/2x 16	1
750-S	750-L	750-R	91.57	11.70	1 5/8x 2 3/4x 18	1 1/8
800-S	800-L	800-R	118.65	15.71	1 3/4x 3 x 20	1 1/8

Armstrong C-A Tool Holders For Holding Armaloy Cutter Bits



Straight Shank



Left-Hand, Offset



Right-Hand, Offset

furnished without cutter; wrench is included.

Armaloy cutters are not steel, but a mixture of semi-rare metals. They are more brittle than high speed steel and therefore should be ground so as to give as much support under the cutting edge as possible. Cutter is parallel to shank of holder.

No. Left-Hand	No. Straight Shank	No. Right-Hand	Each	Armaloy Cutter Bits Each	Size Holder Inches	Size Cutter Inches	Length Square Inches	Wt. Lb.
XX0-L	XX0-S	XX0-R	\$14.73	\$1.26	3/8x 1 1/2x 5 1/2	1/4	2 1/8	1 1/4
XX1-L	XX1-S	XX1-R	17.10	1.99	1/2x 1 1/4x 7	5/16	2 1/2	1 3/4
XX2-L	XX2-S	XX2-R	20.31	2.86	5/8x 1 1/2x 7 7/8	3/8	3	3
XX3-L	XX3-S	XX3-R	27.04	4.23	3/4x 1 3/4x 8 7/8	1/2	3 1/2	4 1/2
XX4-L	XX4-S	XX4-R	37.27	5.83	7/8x 1 7/8x 9 7/8	1/2	4	6 1/2
XX5-L	XX5-S	XX5-R	49.53	9.73	1 x 2 x 11 1/4	5/8	4 1/2	10

Armstrong Carbide Tool Holders For Holding Armide Cutter Bits



Primarily used with carbide cutters but also widely used as a planer and shaper tool. High speed steel cutter bits can also be used.

Drop forged of special steel and heat treated.

The cutter is held parallel to the shank of the holder which permits grinding the cutter so as to give maximum support to the cutting edge.

Furnished with hole broached for either square or heavy duty cutters.

Tool is individually boxed and furnished with wrench, but without cutter.

For Square Cutters

Straight Shank	Right Hand	Left Hand	Each	Size of Holder Inches	Size of Cutter Inches	Weight Pounds
T-0-S	T-0-R	T-0-L	\$8.46	3/8x 1 1/2x 6	1/4	1 1/4
T-1-S	T-1-R	T-1-L	9.55	1/2x 1 1/4x 7	5/16	2
T-2-S	T-2-R	T-2-L	11.97	5/8x 1 1/2x 8	3/8	3 1/4
T-3-S	T-3-R	T-3-L	15.97	3/4x 1 3/4x 9	1/2	5
T-4-S	T-4-R	T-4-L	20.20	7/8x 1 7/8x 10	1/2	7
T-5-S	T-5-R	T-5-L	28.77	1 x 2 x 11	5/8	10 1/2
T-6-S	T-6-R	T-6-L	56.35	1 1/4x 2 1/4x 13	3/4	12
T-7-S	T-7-R	T-7-L	98.17	1 1/2x 2 1/2x 16	1	19
T-750-S	T-750-R	T-750-L	167.10	1 5/8x 2 3/4x 18	1 1/8	26
T-800-S	T-800-R	T-800-L	208.83	1 3/4x 3 x 20	1 1/8	32

For Heavy Duty Cutters

FT-0-S	FT-0-R	FT-0-L	\$10.57	3/8x 1 1/2x 6	1/4	1 1/4
FT-1-S	FT-1-R	FT-1-L	12.13	1/2x 1 1/4x 7	5/16	2
FT-2-S	FT-2-R	FT-2-L	15.00	5/8x 1 1/2x 8	3/8	3 1/4
FT-3-S	FT-3-R	FT-3-L	19.45	3/4x 1 3/4x 9	1/2	5
FT-4-S	FT-4-R	FT-4-L	25.48	7/8x 1 7/8x 10	1/2	7
FT-5-S	FT-5-R	FT-5-L	35.80	1 x 2 x 11	5/8	10 1/2

Armstrong Cutting Off Tools



Straight Shank



Left Hand, Offset



Right Hand, Offset

Made of forged steel.

As cutter is adjustable to any desired clearance the greatest possible support is obtainable under all conditions.

The cutter is beveled on both sides and is held at an angle, giving the side clearance and top rake needed to obtain a clean smooth cut.

Price includes wrench and one **high speed** cutter.

No. Straight Left Shank	No. Right Hand	Complete Tool Each	Extra High Speed Cutter Bits Each	Size Shank Inches	Size Cutter Inches	Approx. Weight Pounds
19	29-L	29-R	\$7.57	\$1.39	5/16x 3/4	5/8
20	30-L	30-R	7.98	1.56	3/8x 7/8	3/4
21	31-L	31-R	9.55	2.16	1/2x 1 1/8	1 1/2
22	32-L	32-R	11.97	3.12	5/8x 1 3/8	2 1/4
23	33-L	33-R	15.97	5.11	3/4x 1 5/8	3 1/2
24	34-L	34-R	19.95	6.90	7/8x 1 3/4	4 3/4
25	35-L	35-R	25.93	10.05	1 x 2	6 3/4
26	36-L	36-R	32.25	11.70	1 1/4x 2 1/4	9

Armstrong Spring Cutting-Off Tools



Goose neck form gives cutter a resiliency that takes up any chatter and keeps work from climbing up on tool.

Cutter is beveled on both sides and held at an angle, giving side

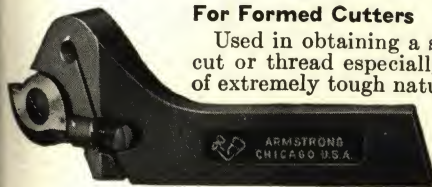
clearance and top rake needed to obtain a clean, smooth job. With wrench and 1 **high speed** steel cutter. One in box.
Straight Shank No. S-20 S-21 S-22 S-23
Left Hand Offset No. S-30L S-31L S-32L S-33L
Right Hand Offset No. S-30R S-31R S-32R S-33R
Complete. each \$11.97 \$14.38 \$17.95 \$23.94

Extra Cutters, **High Speed** Finished. each \$1.56 2.16 3.12 5.11
Size Shank. inches $\frac{3}{8} \times \frac{1}{2}$ $\frac{1}{2} \times \frac{1}{2}$ $\frac{5}{8} \times \frac{1}{2}$ $\frac{3}{4} \times \frac{1}{2}$
Size Cutter. inches $\frac{3}{8} \times \frac{1}{2}$ $\frac{1}{2} \times \frac{3}{4}$ $\frac{5}{8} \times \frac{1}{2}$ $\frac{3}{4} \times \frac{1}{2}$
Weight. pounds $\frac{3}{4}$ 1 $\frac{1}{2}$ 2 $\frac{1}{4}$ 3 $\frac{1}{2}$

Armstrong Spring Threading Tools

For Formed Cutters

Used in obtaining a smooth, finishing cut or thread especially on alloy steels of extremely tough nature. Drop forged



from a special steel and is accurately machined, heat treated and

hardened. Boxed separately. Price includes wrench and a single point cutter V, American National (fine and coarse) or Whitworth standard.

No.	Each	Size of Holder Inches	For Lathes Approx. Size Swing, In.	Height from Bot. of Shank to Cutter Point, In.
NS-50	\$17.35	$\frac{3}{8} \times \frac{7}{8} \times 5\frac{1}{2}$	10 to 12	$\frac{7}{8}$
NS-51	20.80	$\frac{1}{2} \times 1\frac{1}{8} \times 6\frac{1}{2}$	14 to 16	$1\frac{1}{4}$
NS-52	26.89	$\frac{5}{8} \times 1\frac{3}{8} \times 7\frac{1}{2}$	16 to 18	$1\frac{3}{8}$
NS-53	34.69	$\frac{3}{4} \times 1\frac{5}{8} \times 8\frac{1}{2}$	18 to 20	$1\frac{5}{8}$

Armstrong Spring Threading Tools

For Square Cutters



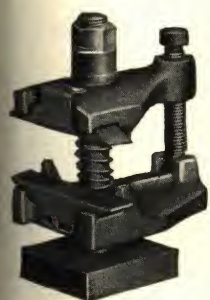
Designed to combine strength and convenience of adjustment and operation with the resiliency considered by many machinists to

be helpful in obtaining a smooth, finishing cut or thread. Complete rigidity conveniently obtained when desirable for taking a roughing cut or doing an ordinary job of turning. Cutter can be held at different angles. Price includes **high speed** V-thread cutter and drop-forged wrench.

No.	Each	S-50	S-51	S-52	S-53
Each.	\$11.07	\$13.30	\$17.05	\$21.96	
Extra High Speed Cutters. each	1.18	1.41	1.83	2.74	
Holder. in.	$\frac{3}{8} \times \frac{7}{8} \times 5\frac{1}{2}$	$\frac{1}{2} \times 1\frac{1}{8} \times 6\frac{1}{2}$	$\frac{5}{8} \times 1\frac{3}{8} \times 7\frac{1}{2}$	$\frac{3}{4} \times 1\frac{5}{8} \times 8\frac{1}{2}$	
Cutter. sq. in.	$\frac{1}{4}$	$\frac{3}{16}$	$\frac{3}{8}$	$\frac{1}{2}$	

Armstrong Improved Lathe Tool Posts

Combines the strength and holding power of the strap and stud tool clamp with the convenience of the open side and ordinary set-screw tool post. Will not slip or chatter and consequently will do accurate work.



As there is no side projection, it is peculiarly adapted to working close up to the chuck.

The open side design permits rapid and convenient change and adjustment of tools.

No.	Each	For Tools Size Inches	For Lathes Swing Inches	Wt. Lb.
1-T	\$25.44	$\frac{1}{2} \times 1\frac{1}{8}$ & Less	12-14	5
2-T	32.37	$\frac{3}{8} \times 1\frac{3}{8}$, $\frac{3}{4} \times 1\frac{5}{8}$	16-18	8 $\frac{1}{2}$
3-T	41.62	$\frac{5}{8} \times 1\frac{3}{4}$, $\frac{3}{4} \times 1\frac{5}{8}$	20-22	11 $\frac{1}{2}$
4-T	49.33	$\frac{7}{8} \times 1\frac{3}{4}$, 1x2	24-32	18

Armstrong Knurling Tools

Knurls and pins made of tool steel suitably tempered. All other parts are drop-forged or bar steel, hardened.



Self centering and knuckle or joint has ample bearing to resist the severe strains of both end and side thrust.

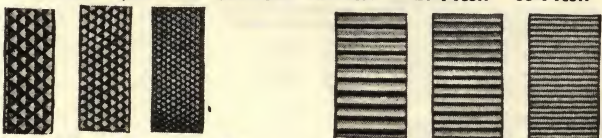
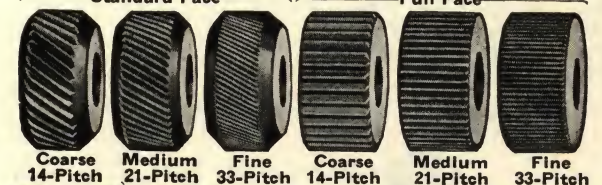
Knurls can be furnished coarse, medium and fine, in either straight line or diamond pattern. Medium diamond knurls will be sent with tool unless otherwise ordered.

No.	Complete	Extra Knurls per Pair	Size Holder Inches	DIMENSIONS, KNURLS INCHES	Knurling Cap. Diam. In.	Wt. Lb.
				Diam. Face Hole		
00-K	\$14.98	\$2.67	$\frac{5}{16} \times \frac{3}{4} \times 5$	$\frac{5}{8}$ $\frac{3}{16}$ $\frac{7}{32}$	$\frac{1}{8}$ up $\frac{5}{8}$	$\frac{5}{8}$
0-K	15.97	2.67	$\frac{3}{8} \times \frac{7}{8} \times 5\frac{1}{2}$	$\frac{5}{8}$ $\frac{3}{16}$ $\frac{7}{32}$	$\frac{1}{8}$ up $\frac{7}{8}$	$\frac{7}{8}$
1-K	17.95	3.09	$\frac{1}{2} \times 1\frac{1}{8} \times 6\frac{1}{2}$	$\frac{3}{4}$ $\frac{1}{4}$ $\frac{1}{4}$	$\frac{1}{8}$ up $1\frac{1}{2}$	$1\frac{1}{2}$
2-K	21.27	3.09	$\frac{5}{8} \times 1\frac{3}{8} \times 7\frac{1}{2}$	$\frac{3}{4}$ $\frac{1}{4}$ $\frac{1}{4}$	$\frac{1}{8}$ up 2	2
4-K	38.83	5.55	$\frac{7}{8} \times 1\frac{5}{8} \times 9$	1 $\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$	$\frac{1}{8}$ up 4	4

Armstrong Knurls

Diamond Pattern, Standard Face

Straight Line Pattern, Full Face



Actual Size of Knurling Produced by Pairs of Right and Left Hand Diamond Knurls

Actual Size of Knurling Produced by Pairs of Straight Line Full Face Knurls

Carbon steel; can also be made from **high speed** steel. Furnished in pairs to fit standard knurling tools.

Specify pitch, pattern, face, and tool number or diameter of knurls. Unless otherwise specified, medium diamond knurls with standard face will be furnished.

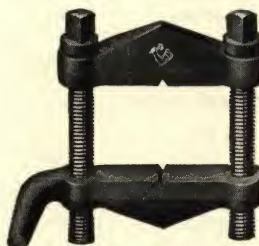
For Knurling Tools No. 00-K, 0-K, 3-K-00, 3-K-0, *670, *671 and *672

No.				DIMEN. OF KNURLS, IN.			
DIAMOND		STR. LINE		Width of Knurl			
Std. Face	Full Face	Std. Face	Full Face	Pitch	Diam.	Std. Face	Full Face
8221	8241	8261	8271	\$2.67	14	$\frac{5}{8}$	$\frac{3}{16}$
8224	8244	8264	8274	2.67	21	$\frac{5}{8}$	$\frac{3}{16}$
8227	8247	8267	8277	2.67	33	$\frac{5}{8}$	$\frac{3}{16}$
For Knurling Tools No. 1-K, 2-K, 3-K-1, 3-K-2, *673 and *674							
8222	8242	8262	8272	\$3.09	14	$\frac{3}{4}$	$\frac{1}{4}$
8225	8245	8265	8275	3.09	21	$\frac{3}{4}$	$\frac{1}{4}$
8228	8248	8268	8278	3.09	33	$\frac{3}{4}$	$\frac{1}{4}$
For Knurling Tool No. 4-K							
8223	8243	8263	8273	\$5.55	14	$\frac{1}{4}$	$\frac{3}{8}$
8226	8246	8266	8276	5.55	21	$\frac{1}{4}$	$\frac{3}{8}$
8229	8249	8269	8279	5.55	33	$\frac{1}{4}$	$\frac{3}{8}$

*Knurling tools for screw machine and turret lathes.

Armstrong Clamp Lathe Dogs

Drop-Forged



Under face of screw heads is convex, fitting into a concave seat, and as holes in upper bar are larger than screw, this allows for a considerable tilting without bending screws. Clamp bars are forged from stiff, open hearth steel, carefully machined and hardened. Screws are hardened. Each dog is boxed separately.

No.	Complete	11	12	13	14
Screws. each	\$5.70	\$7.59	\$9.49	\$13.29	
Capacity between Screws. inches	.39	.55	.75	1.14	
Weight. pounds	$\frac{1}{8}$	1	$1\frac{3}{4}$	$2\frac{3}{4}$	

Armstrong Boring Bars End Cap Pattern For Use in Armstrong Boring Tools



For boring, facing and internal threading. The end caps lock the cutters rigidly under a

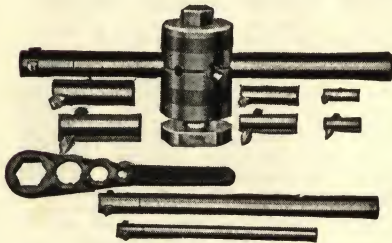
tool steel automatic set-screw and are interchangeable without removing bar from holder.

Each bar is boxed separately and price includes bar with 90°, 45°, and 30° end caps, 3 **high speed** cutters, double head wrench and bushing. Give size of shank or number of tool in which bar is to be used.

No.	Complete Each	Extra Cutter Bits (High Speed), Each	Diam. Bar In.	Lgth. Size of Bar Cutter In. Sq. In.	Bushing to Fit Shank No.	Wt. Lb. Each
0B	\$7.98	\$.13	1/2	8 3/16	8, 9 or 10	3/4
08	7.98	.18	3/8	9 3/16	9, 10 or 11	1
09	9.99	.34	3/4	11 1/4	10, 11 or 12	2 1/4
010	14.38	.58	1 1/8	13 1/2	11, 12 or 13	4 1/2
011	19.95	.78	1 1/2	16 3/8	12 or 13	7
012	27.93	1.12	1 3/4	18 1/2	13	11
*013	35.94	1.96	2	23 1/2	.....	15
*014	51.90	3.85	2 1/2	28 5/8	.....	23

*Without bushing.

Armstrong Three-Bar Boring Tools



Complete with holder; 3 bars with 30°, 45°, and 90° end caps; 9 **high speed** steel cutters; and combination wrench.

Bolt head and bottom part of holder must be fitted to each individual lathe.

No.	Each	Diameter Bar, In.	Size Cutter, Sq. In.
0-BB	\$37.24	3/8, 1/2 and 3/4	3/16 and 1/4
1-B	59.88	1/2, 3/4 and 1 1/8	3/16, 1/4 and 5/8
2-B	79.83	3/4, 1 1/8 and 1 1/2	3/16, 1/4 and 1/2
3-B	139.71	1 1/8, 1 1/2 and 1 3/4	1/4, 3/8 and 1/2
4-B	199.57	1 3/4, 2 and 2 1/4	1/2, 3/4 and 1

Extra High Speed Cutter Bits

Size.....sq. in.	3/16	1/4	5/16	3/8	7/16	1/2	5/8
90°.....each	\$1.13	\$1.34	\$1.58	\$1.78	\$1.12	\$1.96	
45° and 30°.....each	.13	.24	.42	.70	1.06	1.40	2.54

*3/8-inch bar is solid.

Fitting. Extra charge will be made for fitting holders to lathe on which tool is to be used. No. 0-BB, \$2.00; Nos. 1-B and 2-B, \$3.50; Nos. 3-B and 4-B, \$5.50.

Armstrong Planer and Shaper Tools



Second illustration shows tool cutting a keyway with cutter reversed and tool turned around, allowing cutting point behind center of tool and working as a gooseneck tool.

Last illustration shows angles at which cutter can be set. Prices include wrench and **high speed** cutter.

Nos.	Each	High Speed Cutter Bits Each	Size Holder Inches	Size Cutter Inches
*39	\$10.63	\$.28	3/8x 1/8x 5 1/2	1 1/4x 1 1/4
*40	12.37	.48	1 1/2x1 x 6	1 1/4x 3/8
*401	15.97	.78	5/8x1 1/4x 8 1/2	5/8x 1/4
*41	20.88	1.12	3/4x1 1/2x10	3/8x 1/2
42	33.01	2.71	1 1/8x1 3/4x13	1 1/2x 3/4
43	57.87	4.69	1 3/8x2 x16	5/8x 7/8
44	103.77	7.02	1 7/8x2 1/4x19	3/4x1
45	151.68	11.50	2 1/8x2 3/4x22	1 1/8x1 1/8

*Shaper sizes.

Armstrong Safety Screw Lathe Dogs



Bent Tail

Straight Tail

Drop forged from a special grade of open hearth steel. Alloy steel screws, with U.S. Standard thread. Hardened on the point.

Hubs are large enough to permit retapping.

Cap. In.	No.	Complete With Tail Bent Screw Each	Wt. Lb.	No.	Complete With Tail Straight Screw Each	Wt. Lb.	Extra Wrench Each	Extra Screw Each	Diam. In.	Safety Screw Lgth. In.
3/8	1-H	\$1.89	1 1/4	21-H	\$1.89	1 1/4	\$.21	\$.39	5/16	5/8
1/2	2-H	2.10	3/8	22-H	2.10	1 1/4	.27	.45	3/8	2 3/4
3/4	3-H	2.26	1 1/2	23-H	2.26	1 1/2	.28	.55	7/16	1 5/8
1	4-H	2.67	3/4	24-H	2.67	3/4	.33	.69	1 1/2	1 1/8
1 1/4	5-H	3.22	1 1/2	25-H	3.22	1 1/4	.33	.79	9/16	1 3/8
1 1/2	6-H	3.78	2	26-H	3.78	2	.33	.96	1 1/2	1 1/2
1 3/4	7-H	4.57	2 3/4	27-H	4.57	2 1/2	.48	1.14	5/8	1 5/8
2	8-H	5.32	3 1/2	28-H	5.32	3 1/4	.48	1.36	1 1/8	1 1/2
2 1/2	9-H	6.84	5 1/4	29-H	6.84	4 3/4	.72	1.63	1 1/4	2 1/8
3	10-H	8.71	6 3/4	30-H	8.71	6 3/4	.72	1.63	3/4	2 1/4
3 1/2	11-H	11.37	9	31-H	11.37	8	1.14	2.20	7/8	2 1/2
4	12-H	17.07	12	32-H	17.07	11	1.14	2.20	1 1/8	2 3/4
5	13-H	30.36	18	33-H	30.36	17	1.69	2.86	1 3/8	2 5/8

When ordering specify whether wrench is wanted. Prices shown do not include the wrench.

Armstrong Square Head Screw Lathe Dogs



Bent Tail

Straight Tail

Drop-forged from a special grade of open hearth steel. Alloy steel screws, with U.S. Standard thread. Hardened on the point.

Hubs are large enough to permit retapping.

Cap. In.	No.	Complete With Tail Bent Screw Each	Wt. Lb.	No.	Complete With Tail Straight Screw Each	Wt. Lb.	Each	Square Head Screw	Lgth. Under Head In.
3/8	1	\$1.89	1 1/4	21	\$1.89	1 1/4	\$.39	5/16	1 1/8
1/2	2	2.10	3/8	22	2.10	1 1/4	.42	3/8	1 3/8
3/4	3	2.26	1 1/2	23	2.26	1 1/2	.45	7/16	1 5/8
1	4	2.67	3/4	24	2.67	3/4	.54	1 1/2	1 3/4
1 1/4	5	3.22	1 1/2	25	3.22	1 1/4	.55	9/16	2
1 1/2	6	3.78	2	26	3.78	2	.72	5/8	2 3/8
1 3/4	7	4.57	2 3/4	27	4.57	2 1/2	.82	5/8	2 5/8
2	8	5.32	3 1/2	28	5.32	3 1/4	.99	1 1/8	2 3/4
2 1/2	9	6.84	5 1/4	29	6.84	4 3/4	1.26	3/4	3 1/8
3	10	8.71	6 3/4	30	8.71	6 3/4	1.36	3/4	3 3/8
3 1/2	11	11.37	9	31	11.37	8	1.89	7/8	3 5/8
4	12	17.07	12	32	17.07	11	2.10	1 1/8	3 5/8
5	13	30.36	18	33	30.36	17	2.86	1	4 1/4

Armstrong T Slot Bolts

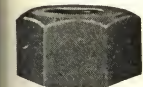


For setting up work on planers, shapers, milling machines, etc. Forged from selected steel. With U.S. Standard threads, ready for use.

No.	Each	Bolt Diam. Inches	Bolt Length Inches	Std. Pkg. Qty.	No.	Each	Bolt Diam. Inches	Bolt Length Inches	Std. Pkg. Qty.
7984	\$.22	$\frac{3}{8}$	1	25	8305	\$.63	$\frac{5}{8}$	$3\frac{1}{2}$	25
7990	.22	$\frac{3}{8}$	$1\frac{1}{2}$	25	8306	.67	$\frac{5}{8}$	4	25
7991	.22	$\frac{3}{8}$	2	25	8307	.67	$\frac{5}{8}$	$4\frac{1}{2}$	25
7992	.25	$\frac{3}{8}$	$2\frac{1}{2}$	25	8308	.72	$\frac{5}{8}$	5	25
7993	.25	$\frac{3}{8}$	3	25	8309	.72	$\frac{5}{8}$	$5\frac{1}{2}$	25
7994	.27	$\frac{3}{8}$	$3\frac{1}{2}$	25	8310	.76	$\frac{5}{8}$	6	25
7995	.28	$\frac{3}{8}$	4	25	7890	.81	$\frac{5}{8}$	7	..
7996	.28	$\frac{3}{8}$	$4\frac{1}{2}$	25	8311	.85	$\frac{5}{8}$	8	..
7997	.31	$\frac{3}{8}$	5	25	8312	.94	$\frac{5}{8}$	10	..
7998	.36	$\frac{3}{8}$	$5\frac{1}{2}$	25	8313	1.03	$\frac{5}{8}$	12	..
7999	.37	$\frac{3}{8}$	6	25	7892	1.14	$\frac{5}{8}$	14	..
7985	.42	$\frac{3}{8}$	7	..	7893	1.23	$\frac{5}{8}$	16	..
8000	.45	$\frac{3}{8}$	8	..	7888	1.32	$\frac{5}{8}$	18	..
8281	.42	$\frac{1}{2}$	$1\frac{1}{2}$	25	7889	1.41	$\frac{5}{8}$	20	..
8282	.42	$\frac{1}{2}$	2	25	8322	.76	$\frac{3}{4}$	2	25
8283	.42	$\frac{1}{2}$	$2\frac{1}{2}$	25	8323	.78	$\frac{3}{4}$	$2\frac{1}{2}$	25
8284	.45	$\frac{1}{2}$	3	25	8324	.81	$\frac{3}{4}$	3	25
8285	.46	$\frac{1}{2}$	$3\frac{1}{2}$	25	8325	.85	$\frac{3}{4}$	$3\frac{1}{2}$	25
8286	.49	$\frac{1}{2}$	4	25	8326	.87	$\frac{3}{4}$	4	25
8287	.51	$\frac{1}{2}$	$4\frac{1}{2}$	25	8327	.91	$\frac{3}{4}$	$4\frac{1}{2}$	25
8288	.54	$\frac{1}{2}$	5	25	8328	.94	$\frac{3}{4}$	5	25
8289	.55	$\frac{1}{2}$	$5\frac{1}{2}$	25	8329	.97	$\frac{3}{4}$	$5\frac{1}{2}$	25
8290	.58	$\frac{1}{2}$	6	25	8330	.97	$\frac{3}{4}$	6	25
8038	.63	$\frac{1}{2}$	7	..	7894	1.06	$\frac{3}{4}$	7	..
8291	.67	$\frac{1}{2}$	8	..	8331	1.12	$\frac{3}{4}$	8	..
8292	.73	$\frac{1}{2}$	10	..	8332	1.24	$\frac{3}{4}$	10	..
8293	.85	$\frac{1}{2}$	12	..	8333	1.36	$\frac{3}{4}$	12	..
8301	.58	$\frac{5}{8}$	$1\frac{1}{2}$	25	7896	1.50	$\frac{3}{4}$	14	..
8302	.58	$\frac{5}{8}$	2	25	7897	1.63	$\frac{3}{4}$	16	..
8303	.60	$\frac{5}{8}$	$2\frac{1}{2}$	25	7898	1.77	$\frac{3}{4}$	18	..
8304	.63	$\frac{5}{8}$	3	25	7899	1.86	$\frac{3}{4}$	20	..

Nuts

Made from special steel and heat treated. Furnished only with U.S. standard threads. Standard package quantity, 100.



No.	N-19	N-20	N-21	N-22
Each	\$.13	.18	.28	.39
Bolt Diameter.....inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$
O. D.....inches	$\frac{11}{16}$	$\frac{7}{8}$	$1\frac{1}{16}$	$1\frac{1}{4}$
Thickness.....inches	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$

Washers



Heavy extra thick washers made from cold rolled bar stock. Casehardened.

Hole diameter is $\frac{1}{32}$ over bolt size.

Standard package quantity, 100.

No.	W-9	W-10	W-11	W-12
Each	\$.09	.12	.15	.18
Bolt Diameter.....inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$
O.D.....inches	$\frac{7}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Thickness.....inches	$\frac{3}{16}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{1}{4}$

T Slot Nuts

Furnished tapped and hardened.

Packaged 25 in a box.

No.	5TN	6TN	7TN	8TN
Each	\$.67	1.00	1.35	1.68
Size.....inches	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1
USS Threads.....inches	$\frac{1}{2}$ -13	$\frac{5}{8}$ -11	$\frac{3}{4}$ -10	$\frac{7}{8}$ -9

Armstrong Drop-Forged Machine Strap Clamps

Plain—Screw Heel—Gooseneck

For holding down work, dies, fixtures, etc., on planers, punch presses, milling machines, boring mills and drill presses. Stiff, strong and convenient.

These clamps will save machines from standing idle while the operators hunt in the junk pile for a piece of scrap with which to clamp down a job.



Plain			Screw Heel			Gooseneck	
Plain Clamps							
No.	Each	Length Inches	Width Inches	Thick- ness, In.	Slot Inches	Wt. Lb.	
54	\$1.14	4	1 $\frac{5}{8}$	$\frac{3}{4}$	1 $\frac{1}{16}$ x1 $\frac{3}{8}$	1	
56	1.89	6	1 $\frac{3}{4}$	$\frac{7}{8}$	1 $\frac{1}{16}$ x2 $\frac{1}{16}$	1 $\frac{3}{4}$	
58	3.22	8	2 $\frac{1}{8}$	1 $\frac{1}{8}$	1 $\frac{3}{16}$ x2 $\frac{13}{16}$	3 $\frac{3}{4}$	
59	5.32	10	2 $\frac{1}{2}$	1 $\frac{3}{8}$	1 $\frac{5}{16}$ x3 $\frac{11}{16}$	7	
Screw Heel Clamps							
No.	Each	Length Inches	Width Inches	Thick- ness, In.	Slot Inches	Wt. Lb.	
54-A	\$2.10	4	1 $\frac{5}{8}$	$\frac{3}{4}$	1 $\frac{1}{16}$ x1 $\frac{3}{8}$	1 $\frac{1}{8}$	
56-A	3.22	6	1 $\frac{3}{4}$	$\frac{7}{8}$	1 $\frac{1}{16}$ x2 $\frac{1}{16}$	2	
58-A	4.92	8	2 $\frac{1}{8}$	1 $\frac{1}{8}$	1 $\frac{3}{16}$ x2 $\frac{13}{16}$	4	
59-A	7.59	10	2 $\frac{1}{2}$	1 $\frac{3}{8}$	1 $\frac{5}{16}$ x3 $\frac{11}{16}$	7 $\frac{1}{4}$	
Gooseneck Clamps							
No.	Each	Length Inches	Width Inches	Thick- ness, In.	Slot Inches	Offset Inches	Wt. Lb.
74	\$1.14	4	1 $\frac{3}{8}$	$\frac{3}{4}$	1 $\frac{1}{16}$ x 1 $\frac{5}{16}$	1 $\frac{3}{16}$	1
76	1.89	6	1 $\frac{3}{4}$	$\frac{7}{8}$	1 $\frac{1}{16}$ x1 $\frac{11}{16}$	1 $\frac{5}{16}$	2
78	3.22	8	2 $\frac{1}{8}$	1 $\frac{1}{8}$	1 $\frac{3}{16}$ x2 $\frac{1}{16}$	1 $\frac{1}{8}$	4 $\frac{1}{4}$

Finger—Double Finger—U



Finger Clamps							
No.	Each	Length Inches	Width Inches	Thick-ness, In.	Slot Inches	Fingers Inches	Wt. Lb.
44	\$1.14	4	$1\frac{3}{8}$	$\frac{3}{4}$	$1\frac{1}{16} \times 1\frac{3}{8}$	$1\frac{1}{2} \times 1\frac{1}{2}$	$\frac{3}{4}$
46	1.89	6	$1\frac{3}{4}$	$\frac{7}{8}$	$1\frac{1}{16} \times 1\frac{15}{16}$	$\frac{5}{8} \times \frac{5}{8}$	$1\frac{1}{2}$
48	3.22	8	$2\frac{1}{8}$	$1\frac{1}{8}$	$1\frac{3}{16} \times 2\frac{1}{16}$	$\frac{3}{4} \times \frac{3}{4}$	3
Double Finger Clamps							
No.	Each	Length Inches	Width Inches	Thick-ness, In.	Hole Inches	Fingers Inches	Wt. Lb.
30	\$.75	3	$1\frac{1}{2}$	$\frac{5}{8}$	$1\frac{1}{16}$	$1\frac{1}{2} \times 1\frac{1}{2}$	$\frac{3}{8}$
35	.96	$3\frac{1}{2}$	$1\frac{5}{8}$	$\frac{3}{4}$	$1\frac{1}{16}$	$\frac{5}{8} \times \frac{5}{8}$	$\frac{5}{8}$
40	1.32	4	$1\frac{13}{16}$	$\frac{7}{8}$	$\frac{13}{16}$	$\frac{3}{4} \times \frac{3}{4}$	$\frac{7}{8}$
U-Clamps							
No.	Each	Length Inches	Width Inches	Thick-ness, In.	Slot Inches	Fingers Inches	Wt. Lb.
64	\$1.14	4	$1\frac{3}{4}$	$\frac{3}{4}$	$1\frac{1}{16} \times 3\frac{1}{2}$	$\frac{9}{16} \times \frac{9}{16}$	1
66	1.89	6	2	$\frac{7}{8}$	$1\frac{1}{16} \times 5\frac{1}{2}$	$\frac{11}{16} \times \frac{11}{16}$	2
68	3.22	8	$2\frac{3}{8}$	$1\frac{1}{8}$	$1\frac{3}{16} \times 7\frac{3}{8}$	$\frac{13}{16} \times \frac{13}{16}$	4
110	4.75	10	$2\frac{3}{4}$	$1\frac{1}{4}$	$1\frac{5}{16} \times 9$	$\frac{15}{16} \times \frac{15}{16}$	$6\frac{1}{2}$
112	7.03	12	$3\frac{1}{4}$	$1\frac{3}{8}$	$1\frac{1}{16} \times 11$	$1\frac{1}{16} \times 1\frac{1}{16}$	11

Williams' Deep Throat Standard Pattern Drop-Forged C Clamps

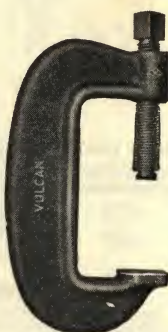
For Light Duty



Drop-forged from strong special steel; heat-treated. Screws are made from tough, wrought steel, heat-treated and threaded for strength and rapid adjustment. Furnished wrought steel swivel.

No.	Complete Each	Screw & Swivel Each	Swivel Only Each	CAP.,		Depth Throat	DIMEN., IN.—SCREWS, IN.—			Wt. Lb.	
				In.	Max. Min.		Lgth.	Width	Diam.		
402	\$2.55	\$1.01	\$.18	2	0	2	4 7/8	3 3/4	1 1/2	4 3/4	1 1/8
403	3.06	1.19	.18	3	0	2 3/8	6 1/8	4 1/8	1 1/2	6	1 1/2
404	3.72	1.36	.26	4	0	2 3/4	7 5/8	4 3/4	5/8	8 1/8	2 1/4
406	5.08	1.69	.26	6	0	3 5/8	10 1/4	6	5/8	10 1/4	3 3/4
408	6.78	2.02	.33	8	2	4 1/2	12 3/4	7	3/4	10 5/8	5 1/2
410	8.47	2.55	.33	10	3	5 5/8	15 1/4	8 1/8	3/4	11 3/4	8 1/4
412	11.02	3.39	.51	12	4	5 3/4	18	9 3/8	7/8	13	12 1/4

Williams' Vulcan Drop Forged Heavy Service C Clamps



Drop forged from a strong, tough grade of carefully selected steel and heat treated. The screws, threaded U.S.S., are made of a special grade of steel, and are hardened and tempered.

No.	Clamp Comp. Each	Ex. Std. Screws Each	Long Screws Each	CAPACITY, IN. Max.	Min. with Std. Screw	Diam. Std. Screw, In.
0	\$1.69	\$.33	.....	3/4	0	5/16
1	2.55	.40	.....	1 1/4	0	3/8
1 1/2	4.25	.48	\$1.36	1 3/4	1 1/16	1/2
2	5.94	.68	1.96	2 1/4	7/8	5/8
3	8.47	.95	2.64	3 1/4	1 5/16	3/4
4	11.02	1.30	3.39	4 1/2	2	7/8
5	13.55	1.69	4.25	5 1/2	2 1/2	1
6	16.94	2.20	5.26	6 1/2	3 1/16	1 1/8
8	23.72	2.88	7.11	8 1/2	4 1/4	1 1/8
10	32.19	2.88	8.65	10 1/2	6 3/8	1 1/8
12	42.35	4.07	12.19	12 1/2	7 5/8	1 1/4

Available with full length screws. Minimum capacity of all clamps is 0.

Williams' Agrippa Drop-Forged General Service C Clamps

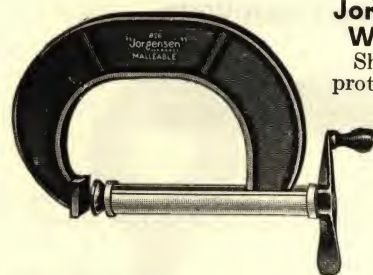


Drop-forged from a strong, tough grade of steel, heat-treated.

No.	Complete Each	Screw and Swivel Each	Swivel Only Each	CAP., IN. Max.	Depth Throat Min. In.	DIMEN., IN. Lgth.	Width In.	Screw, IN. Diam.	IN. Lgth.	Wt. Lb.
103	\$6.78	\$2.02	\$.68	3	0	2	6 7/8	4 3/8	5/8	2 3/8
104	7.63	2.38	.86	4	0	2 3/8	8 1/4	5 1/8	3/4	4 1/4
106	9.33	2.38	.86	6	2	2 1/2	10 3/8	5 3/8	3/4	5 1/2
108	11.02	2.38	.86	8	4	2 5/8	12 1/2	5 1/2	3/4	7
110	12.72	2.38	.86	10	6	2 3/4	14 5/8	5 3/4	3/4	7 1/2
112	14.41	2.38	.86	12	8	2 7/8	16 7/8	6	3/4	9 1/2
115	18.63	4.07	1.01	15	10	3 1/16	20 1/4	6 1/2	7/8	13 1/2
118	23.72	4.07	1.01	18	13	3 1/4	23 1/2	7	7/8	17

Jorgensen Shielded Welders' Clamps

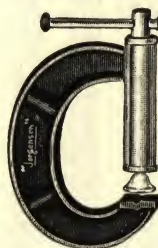
Shielded screw provides protection to threads. Has deep throat, extra heavy malleable iron frame. Cold drawn steel screw, 1 1/16-in. diam., with deep, smooth threads. Turned steel swivel, 1 1/2-in. diam., brass thrust washers.



No.	Each	824S	826S	828S
Each	.....	\$9.00	10.50	12.00
Max. Opening	.....in.	4 1/2	6 1/4	8
Throat Depth	.....in.	3 7/8	4 1/4	4 7/8
Extreme Depth	.....in.	4 11/16	5 5/8	5 1/4
Load Limit	.....lb.	7000	7000	6000
Weight	.....lb.	8	8 3/4	9 3/4

Series 120-S Jorgensen Shielded Welders' Clamps

For general service. Heavy steel shield over full length of clamp screw. Shield provides a physical barrier between screw and potential damage—from spatter, dirt, heat, rough shop handling or actual contact with torch.



V-notch in the foot of the frame. Full diameter cold drawn steel screw, with deeply cut, smooth threads. Sliding vise-type handle is regularly furnished; iron wing-nut type handle is optional, specify if desired. Turned steel, ball-and-socket type swivel; large flat bearing surface. Packed 1 in a carton.

No.	Each	OPENING INCHES Max.	Min.	DEPTH, IN. of Throat	IN. Extreme	Screw Diam. In.	Normal Load Lb.	Wt. Lb.
122-S	\$3.00	1 3/4	Close	2	2 3/8	9/16	2400	2
123-S	3.50	2 3/4	Close	2 1/4	2 13/16	9/16	3200	2 1/2
124-S	4.00	3 3/4	Close	2 1/2	3 1/8	5/8	3300	3 1/2
125-S	4.50	4 3/4	Close	3	3 5/8	5/8	3400	4
126-S	5.00	5 3/4	Close	3 3/16	3 15/16	5/8	3600	5
128-S	6.00	7 5/8	Close	3 3/4	4 1/2	3/4	4500	7 1/2
130-S	8.00	9 1/2	2	4	4 3/4	13/16	4500	10
132-S	10.00	11 5/8	4	4 1/4	5	13/16	4500	11

Jorgensen Body Clamps

Extra heavy malleable iron frame. V-notch in clamp foot. Cold drawn steel screw, deep smooth threads. Ball and socket swivel is regular; plain riveted swivel when ordered. Loose pin or thumb-nut handle.

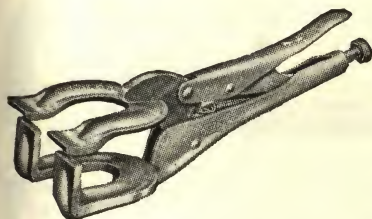


No.	Each	Maximum Opening Inches	Throat Depth Inches	Extreme Depth Inches	Screw Diam. Inches	Load Limit Pounds	Wt., Lb. per Doz.
122	\$1.50	2	2	2 3/8	9/16	2400	18
123	1.80	3	2 1/4	2 13/16	9/16	3200	24
124	2.20	4	2 1/2	3 1/8	5/8	3300	30
125	2.60	5	3	3 5/8	5/8	3400	42
126	3.00	6	3 3/16	3 15/16	5/8	3600	48
128	4.00	8	3 3/4	4 1/2	3/4	4500	78
130	5.00	10	4	4 3/4	13/16	4500	102
132	6.50	12	4 1/4	5	13/16	4500	116

The Williams' Line

Provides the wrench for every requirement. If the wrench you need is not listed in this book, let us procure it for you.

No. 9 Petersen Vise-Grip Welding Clamps



Built of special alloy steels, scientifically hardened and tempered.

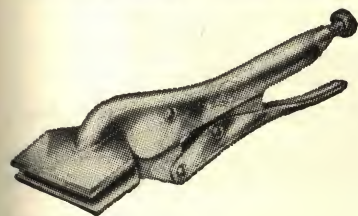
Special U-shape jaws provide perfect visibility and working room. End screw provides quick jaw-opening adjustment up to 1½ inches for

varying widths of materials. Aligns edges for welding almost instantly and holds material in perfect alignment firmly, without use of hands.

Nickel plated.

Each.....	\$2.95
Length.....inches	9
Shipping Weight.....pounds	2

No. 8 Petersen Vise-Grip Sheet Metal Tools



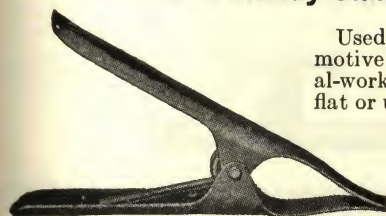
Locks to the work with powerful grip. Material cannot slip. Gives smoother, more accurate bending and shaping job. Eliminates tiresome hand-gripping. Where locked grip is not required, merely tight-

en end-screw so that jaws give non-locking plier action. Bends, forms and crimps, locks templates to blank sheets, holds sheet metal strips for welding, works inside stacks, bends lead strips, etc. Length, 8 inches. Jaw width, 3½ inches. Throat depth, 1¾ inches.

Weight per dozen, 15 pounds.

No. 8; Weight, 1½ Pounds.....each	\$2.95
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K-V Handy Clamps



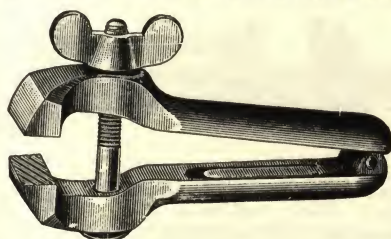
Used by aircraft and automotive manufacturers, metal-workers, etc., for holding flat or uneven surfaces.

Made of strong stamped steel, perfectly fitted so that the lips of the jaws come together in an even line.

Spring exerts a constant and steady pressure which increases as the jaws are opened. Rust-resistant finish.

Size No.....	1	2	3
Each.....	\$.50	.64	1.20
Length Overall.....inches	4	6	9
Jaws Open.....inches	1	2	3
Weight, per Dozen.....pounds	1¼	4½	9

No. 3 Millers Falls Hand Vises



Solid semi-steel castings, well tempered, in black finish with polished jaws. Jaws opened by heavy spring; closed with thumb nut and screw bolt. Jaws are checked to insure firm grip.

Length, 5 inches. Width of jaws, 1½ inches. Jaws open, 1¼ inches. Weight each, 1½ pounds.

No. 3.....	each \$3.00
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Pony Malleable C Clamps

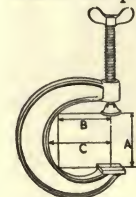
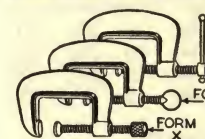
Used in industrial service in light assembly operations by machinists, tool-makers, pattern-makers, sheet-metal workers, model work, and for wood, and other materials in many crafts.

Used as household tools for holding quilting frames, curtain stretchers, ping-pong nets, jig-saw boards, portable devices to table tops, etc.

Frames are malleable iron, liberally proportioned, finished for smooth appearance and protection against rust. Steel screws with full standard threads, closely fitted. Turned steel swivels, securely fastened to end of screw, revolve freely. Proof-test on No. 245 is 1400 pounds or more; on No. 246, 1600 pounds or more.

Three different forms of handles are designated by the letters T, O, X. On most sizes, one or two optional designs of handles are available if so specified. The prices below indicate what optional designs of handles if any, are available for each size, and also indicates the proper manner of ordering, by adding the letter O or X to the regular stock number.

Packed 1 dozen per shelf box, except No. 245 and No. 246 which are packed ½ dozen per shelf box.



Depth of throat is measured from center line of screw to the inner edge of frame. In some designs depth of throat is greater at center of frame than near the ends to provide a working clearance between clamp frame and work, or for greater reach.

Group D—Regular Throat

No.	Per Doz.	Max. Open Depth In.	Throat Depth In.	Max. Reach In.	Screw Dia. In.	Wt. Per Doz. Lb.	Type Handle
228	\$3.60	¾	5/8	5/8	No. 12	1¼	X
232	4.80	2	1	1	¾	3	T
232-O	4.80	2	1	1	¾	3	O
232-X	5.40	2	1	1	¾	3	X
242	6.00	2½	1½	1½	¾	6	T
242-O	6.00	2½	1½	1½	¾	6	O
242-X	6.00	2½	1½	1½	¾	6	X



Group E—Medium Throat

No.	Per Doz.	Max. Open Depth In.	Throat Depth In.	Max. Reach In.	Screw Dia. In.	Wt. Per Doz. Lb.	Type Handle
231	\$4.20	1	1½	1½	¾	2¼	T
231-O	4.20	1	1½	1½	¾	2¼	O
231-X	4.80	1	1½	1½	¾	2¼	X
233	4.80	1½	1½	1½	¾	3½	T
233-O	4.80	1½	1½	1½	¾	3½	O
233-X	5.40	1½	1½	1½	¾	3½	X
244	8.40	2½	2½	2½	¾	9	T
244-O	8.40	2½	2½	2½	¾	9	O
244-X	8.40	2½	2½	2½	¾	9	X



Group F—Round Frame

No.	Per Doz.	Max. Open Depth In.	Throat Depth In.	Max. Reach In.	Screw Dia. In.	Wt. Per Doz. Lb.	Type Handle
227	\$3.60	5/8	¾	7/8	No. 12	1¼	X
230	5.40	1¼	1½	1½	¾	3½	O
230-X	6.00	1¼	1½	1½	¾	3½	X



Group G—Deep Throat

No.	Per Doz.	Max. Open Depth In.	Throat Depth In.	Max. Reach In.	Screw Dia. In.	Wt. Per Doz. Lb.	Type Handle
236	\$5.40	1	3½	3½	¾	3½	X
237	6.00	1½	3½	3½	¾	5¼	T
237-O	6.00	1½	3½	3½	¾	5¼	O
237-X	6.60	1½	3½	3½	¾	5¼	X
245	15.00	2½	4½	4½	¾	12	T
245-O	15.00	2½	4½	4½	¾	12	O
245-X	15.00	2½	4½	4½	¾	12	X
246	27.00	2½	6	6¼	¾	27	T
246-O	27.00	2½	6	6¼	¾	27	O
246-X	27.00	2½	6	6¼	¾	27	X



Group H—Square Frame

No.	Per Doz.	Max. Open Depth In.	Throat Depth In.	Max. Reach In.	Screw Dia. In.	Wt. Per Doz. Lb.	Type Handle
251	\$8.40	1	1½	1½	¾	2½	T
251-O	8.40	1	1½	1½	¾	2½	O
251-X	9.00	1	1½	1½	¾	2½	X
252	9.60	1½	2	2	¾	4	T
252-O	9.60	1½	2	2	¾	4	O
252-X	10.20	1½	2	2	¾	4	X



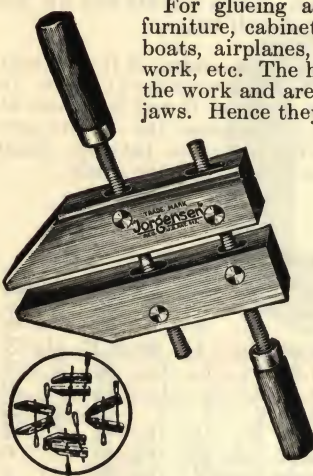
No. 1 Jorgensen Malleable Iron Carriage Clamps



Malleable iron frame, cold drawn steel screw with deep smooth threads. Supplied with ball and socket swivel but plain riveted-on swivel is optional.

No.	Per Dozen	Opens Inches	Depth Throat Inches	Wt., Lb. per Dozen	No.	Per Dozen	Opens Inches	Depth Throat Inches	Wt., Lb. per Dozen
102	\$9.00	2½	1¾	14	108	\$28.00	8	3¼	48
103	10.00	3	1⅞	17	110	36.00	10	3⅝	84
104	12.00	4	2⅛	24	112	46.00	12	3⅝	88
105	15.00	5	2½	28	112X	50.00	12	6	96
106	18.00	6	2¾	34	...	...	...	...	...

Style J Jorgensen Peerless Adjustable Steel Spindle Handscrews



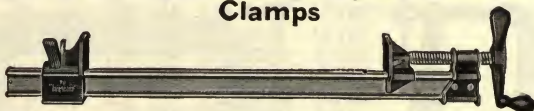
For glueing and assembly of woodwork, furniture, cabinet work, musical instruments, boats, airplanes, body work, patterns, stair work, etc. The hard maple jaws do not mar the work and are less likely to slip than steel jaws. Hence they are also most desirable for holding steel sheets, bars, odd shapes, templates, bakelite, linoleum, fabrics, insulated wire, fine veneers, etc. They have deep throat and afford either a broad area of evenly distributed pressure, or concentration at one point. Leverage of screw action gives most secure grip.

Finest hard maple straight grain seasoned and oiled jaws. Cold drawn screws and nuts, faster in operation and

more durable than wood screws. Angle of jaws adjustable to fit the work or over-lap one jaw beyond the other. Threads will not strip. Glue will not adhere to the spindles. Does not come apart. Not affected by changes in climatic conditions.

No.	Per Dozen	Open Length Btwn. Jaws In.	Jaws In.	Wt. Lbs. per Doz.	No.	Per Dozen	Open Length Btwn. Jaws In.	Jaws In.	Wt. Lbs. per Doz.
5/0	\$30.00	4	2	5	2	\$54.00	12	8½	50
4/0	32.40	5	2½	6	3	60.00	14	10	58
3/0	36.00	6	3	12½	4	72.00	16	12	86
2/0	38.40	7	3½	15½	5	84.00	18	14	100
0	42.00	8	4½	23	6	96.00	20	14	112
1	48.00	10	6	30	7	120.00	24	17	130

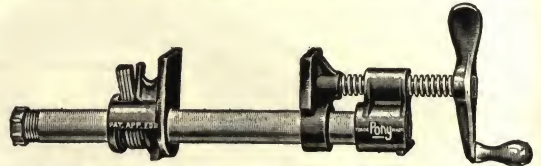
Style 70 Jorgensen High Speed Steel Bar Clamps



Steel I bar of extra carbon and manganese content, size 1½x5x1½-inch plus, without notches or deformity. Multiple disc clutch grips automatically at any point. Secure hold and easy release. Malleable castings with orange enamel finish. Screws of cold drawn steel, ⅝-inch diameter with deep smooth threads and hardened thrust bearing. Jaws, 2 inches high, 1¾ inches wide. Solid one-piece handle recommended; plain crank with loose wood grip optional.

No.	Per Dozen	Max. Open. Ft.	Wt., Lb. Per Doz.	No.	Per Dozen	Max. Open. Ft.	Wt., Lb. Per Doz.
7024	\$45.60	2	88	7060	\$60.00	5	130
7030	46.80	2½	94	7072	66.00	6	146
7036	48.00	3	98	7084	72.00	7	162
7048	54.00	4	114	7096	78.00	8	178

No. 50 Pony Steel Bar Clamp Fixtures



For general utility service, glueing, assembling, etc. Designed to make ordinary ¾-inch steel pipe serve as the bar. Adjusted by multiple disc clutch which grips bar automatically at any point. Foot is never loose on bar and is released by finger grips. Malleable iron castings.

Clamping faces, 1¾ inches square. Screw of cold-drawn steel, ⅝ inch in diameter. Hardened steel clutch discs. Orange-baked enamel castings. Black one-piece handle.

Fixtures only packed 1 set per shelf box, 12 sets per carton. Shipping weight per dozen, 31 pounds. No. 50, Fixtures Only, without Pipe, per doz. sets \$30.00

No. 52 Pony Steel Bar Clamp Fixtures



For use on any length ½-inch standard or extra heavy black pipe.

Lightweight. Ball and socket swivel permits ready application to chairs and other work where surfaces may not be parallel.

Clamping faces, 1½ inch square on tail piece, 1 inch round on screw.

Diameter hand wheel, 2⅞ inches.

Diameter screw, ½ inch with deep smooth threads cut in cold-drawn steel.

Baked enamel finish.

Packed 1 set per shelf box; 12 sets per carton. Each set makes one clamp. Shipping weight per carton, 18 pounds. No. 52, Without Pipe, per dozen sets \$18.00

No. 56 Pony Clamp Fixtures



Malleable iron castings; hardened steel discs; cold drawn steel screw, ⅝-inch diameter, with smooth, deep threads. Screw is 2½ inches from edge of the bar.

Multiple disc clutch locks automatically at any position; holds securely; is easily released by finger grips. The clutch can be readily reversed or replaced.

Use ¾-inch pipe as bar on which to mount these fixtures. Extra heavy pipe is recommended.

Packed 1 set in a box; 12 sets in a carton.

Shipping weight, per carton, 24 pounds.

No. 56, Fixtures Only, without Pipe, per dozen sets \$30.00

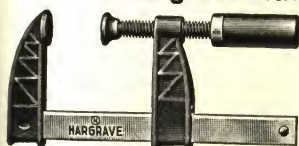
No. 640 Hargrave Improved I-Bar Clamps



Bar, high-carbon manganese steel, 1½x5x1½ inch I-section. Wide smooth flange. Notches formed in web, spaced ½-inch apart. Slide, malleable iron, cannot slip or bind. Heavy, tempered steel dog engages notches for positive stop. Clamping surfaces 1⅞ inches wide, 1⅜ inches deep. Malleable iron tip with case-hardened thrust bearing for end of screw. Steel screw, ⅝-inch diameter with deep-cut Acme thread, heat treated. Reinforced wood handle with heavy steel ferrule and cap. All-metal T handle optional.

Opening.....feet 2 2½ 3 4 5 6 7
No. 640.....each \$5.44 5.60 5.76 6.44 7.24 7.90 8.60
Weight.....pounds 6¾ 7¾ 8 9¼ 10½ 11¾ 13

Hargrave Quick Bar Clamps



Clutch will not slip under pressure or bind when released. Grip, wood; bar, clutch and screw are steel; other parts malleable.

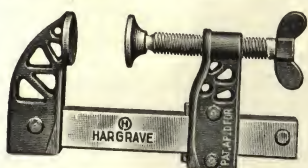
No. 496, Light. Bar, $1\frac{1}{4} \times \frac{3}{4}$ in.; depth, $2\frac{1}{2}$ in.

No. 506, Medium. Bar $\frac{5}{16} \times 1$ inch; depth $3\frac{1}{2}$ inches.

Opening Inches	No. 496, Light	Approx. Wt. Lb. per Doz.	Opening Inches	No. 506, Medium	Approx. Wt. Lb. per Doz.
4	\$32.00	12	6	\$38.00	34
6	32.00	13 $\frac{1}{4}$	8	39.00	36 $\frac{1}{4}$
8	33.00	15	12	42.00	40 $\frac{3}{4}$
10	34.00	16	18	46.00	46 $\frac{1}{2}$
12	35.00	17 $\frac{1}{4}$	24	50.00	52 $\frac{1}{4}$
18	36.00	21	30	54.00	58
24	39.00	24 $\frac{3}{4}$	..	..	..
30	42.00	28 $\frac{1}{2}$	..	..	..

Hargrave Quick Clamps

Movable Frame and Stationary Foot



For use in cabinet work, pattern making, boat and ship building, automobile body, airplane and parlor frame work. Screw is steel and has deep cut Acme thread, with long bearing.

No. 498— $1\frac{1}{2} \times \frac{1}{8}$ -Inch Steel Bar, 2 Inches Deep									
Opening.....inches	4	6	8	12	18	24	30	36	48
No. 498.....per doz.	\$35.	35.	36.	39.	43.50	48.	52.	56.	60.
No. 500— $1\frac{1}{2} \times \frac{1}{4}$ -Inch Steel Bar, 2 $\frac{1}{2}$ Inches Deep									
Opening.....inches	4	6	8	12	18	24	30	36	48
No. 500.....per doz.	\$44.	44.	45.	48.	52.	56.	60.	64.	68.
No. 508— $1\frac{1}{2} \times \frac{3}{8}$ -Inch Steel Bar, 6 Inches Deep									
Opening.....inches	6	8	12	18	24	30	36	48	60
No. 508.....per doz.	\$68.	70.	74.	80.	86.	98.	104.	116.	122.
No. 514— $1\frac{1}{2} \times \frac{3}{8}$ -Inch Steel Bar, 3 Inches Deep									
Opening.....inches	6	8	12	18	24	30	36	48	60
No. 514 per doz.	\$62.	64.	68.	74.	80.	92.	104.	116.	122.

No. 510 Hargrave Large Quick Clamps

Movable Frame and Stationary Foot



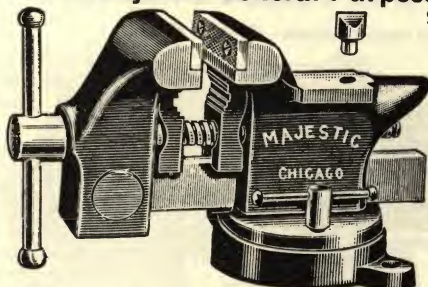
Can be instantly applied or removed from the work; handy to operate, takes up less room. Especially useful in boat building, pattern making and airplane work. Rigid at any opening and will not slip or release when jarred. Bar is of high manganese steel, $2\frac{1}{2} \times \frac{1}{2}$ inches; frame and foot are of the best grade of malleable.

Gripping blocks are hardened tool steel. Construction of frame and foot enables these clamps to stand tremendous clamping strain. Center of screw to bar, 9 inches.

Opening.....inches	6	8	12	18	24
No. 510.....per doz.	\$110.	114.	122.	134.	146.
Weight per Dozen.....lb.	180	187	201	222	243

Majestic General Purpose Vises

Stationary Jaws Swivel Base



For shop, garage and home use. Deeply milled corrugated replaceable jaw faces.

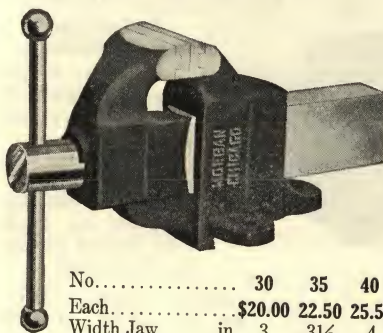
Pipe jaws, removable, fitted to hold pipe from $\frac{1}{4}$ inch and up.

Cold drawn steel screw. Forged ball ends; sliding handle.

No.....	3	34	4A
Each.....	\$6.00	7.90	10.90
Jaw Width.....in.	3	3 $\frac{1}{2}$	4
Jaw Opens.....in.	3 $\frac{1}{2}$	4	5
Weight.....lb.	14	17	28

Morgan Machinists' Vises

Solid Jaw Stationary Base



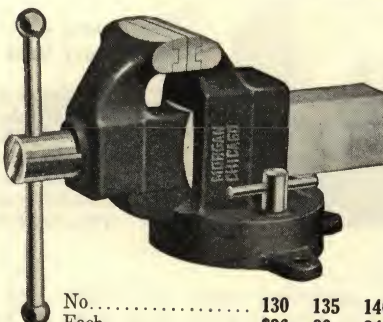
Jaws are milled parallel and have interchangeable tool steel faces, which may be renewed when battered or worn.

All parts are interchangeable.

No.....	30	35	40	45	50	60	80
Each.....	\$20.00	22.50	25.50	31.00	40.00	78.00	150.00
Width Jaw.....in.	3	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	5	6	8
Jaws Open.....in.	4	5	6	7	8	10	12
Weight.....lb.	23	31	43	56	74	138	250

Morgan Machinists' Vises

Solid Jaw Swivel Base

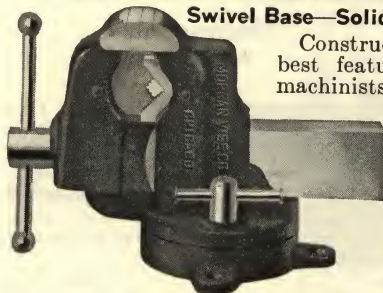


Jaws are milled parallel and have interchangeable steel faces, which may be renewed when worn. All parts are interchangeable.

No.....	130	135	140	145	150	160	180
Each.....	\$26.	30.	34.	40.	60.	104.	196.
Width Jaw.....in.	3	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	5	6	8
Jaws Open.....in.	4	5	6	7	8	10	12
Weight.....lb.	32	44	57	70	95	150	275

Morgan Combination Pipe Vises

Swivel Base—Solid Jaw



Constructed to embody the best features of the standard machinists' vise and the convenience of a pipe vise.

Pipe jaws are milled from a high grade tool steel and the vise jaws have hardened tool steel faces.

All parts are interchangeable.

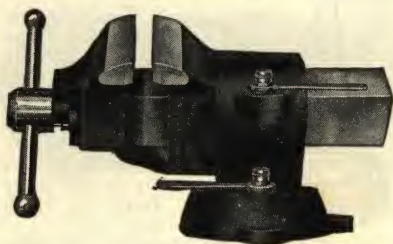
No.....	87	88	288 $\frac{1}{2}$	289 $\frac{1}{2}$
Each.....	\$35.00	48.00	76.00	120.00
Width of Jaw.....inches	3 $\frac{1}{2}$	4 $\frac{1}{2}$	5	6
Pipe Capacity.....inches	2	3	4	6
Weight.....pounds	48	72	120	185

MANUFACTURERS' CATALOGS

We shall be glad to send Manufacturers' Catalogs and other Available Publications and Data on request.

No. 474 Parker's Double Swivel Vises

Stationary Jaws—Swivel Base



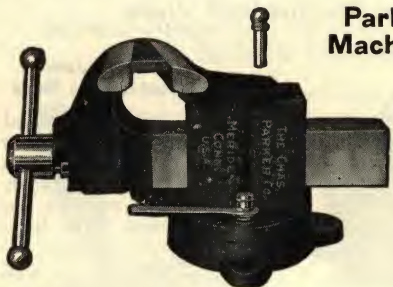
Made of castings of alloyed mixture jaws are of tool steel.

The swivels operate independent of each other, allowing the work to be placed in any position without removing same from the jaws.

No.	474
Each.	\$64.00
Width Jaw.....inches	3 3/4
Jaws Open.....inches	6
Weight.....pounds	67

Parker's Victor Machinists' Vises

Swivel Jaw Swivel Base



For use in shops where tapered pieces of work are to be held.

By removing the pin, the top of the back jaw can be swiveled to hold odd shaped pieces for filing, etc.

No.	383 1/2	384 1/2	386
Each.	\$40.00	\$56.00	120.00
Jaw.....inches	3 1/2	4 1/2	6
Vise Opens.....inches	5	6	9 1/2
Weight.....pounds	51	71	174

Parker Eclipse Machinists' Vises

Stationary Jaw Stationary Base



Tension spring and screw in handle hold it in position. Screw is dropforged with one-piece handle. Malleable iron nut. Renewable jaws.

No.	953	953 1/2	954	954 1/2	955	956	958
Each.	\$20.00	22.50	25.50	31.00	40.00	78.00	150.00
Jaw.....in.	3	3 1/2	4	4 1/2	5	6	8
Vise Opens.in.	4 1/2	5 1/2	6 1/2	7	8	10 1/2	13 3/4
Wt.....lb.	23	35	46	63	85	132	245

Parker Eclipse Machinists' Vises

Stationary Jaw Swivel Base

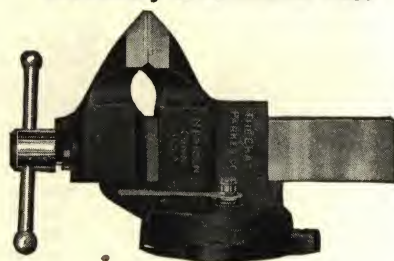


Turning the wrench wedges shoes against sides of circle in base providing gripping power of 360°. Renewable steel jaws. Oversize screw and nut.

No.	Each	Jaw In.	Vise Opens In.	Wt. Lb.	No.	Each	Jaw In.	Vise Opens In.	Wt. Lb.
973	\$26.00	3	4 1/2	26	975	\$60.00	5	8	104
973 1/2	30.00	3 1/2	5 1/2	42	976	104.00	6	10 1/2	157
974	34.00	4	6 1/2	59	978	196.00	8	13 3/4	298
974 1/2	40.00	4 1/2	7	76	...	...	...	...	...

No. 674 1/2 Parker's Sheet Metal Workers' Vises

Stationary Jaws—Swivel Base



Faces are of special tool steel, deeply faced, cast to jaws. Width of jaws, 4 1/2 inches. Jaws open, 7 inches. Depth of face, 2 1/4 inches. Weight, 77 pounds.

No. 674 1/2each \$45.00

Parker's Combination Pipe Vises

Stationary Jaw Swivel Base



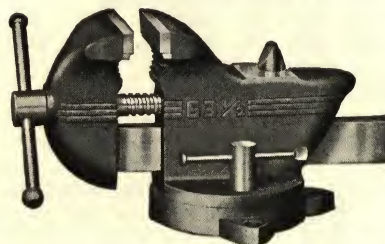
Designed for the plumbing and railway fields. High grade steel pipe jaws are milled and tempered in oil; do not project beyond the face of the steel jaws.

Has swivel base with 360° gripping power.

No.	433 1/2	434 1/2	435	436
Each.	\$35.00	48.00	76.00	120.00
Jaw.....inches	3 1/2	4 1/2	5	6
Vise Opens.....inches	5	6 1/2	7	10
Holds Pipe Up to.....inches	2	3	4	6
Weight.....pounds	47	75	116	185

No. 631 1/2 Parker's Utility Vises

Removable Jaws—Swivel Base



A vise with positive lock feature. Has hardened steel jaws, steel cut-off tool, steel screw and handle and sliding bar. Pipe jaws are part of the casting and cannot be misplaced.

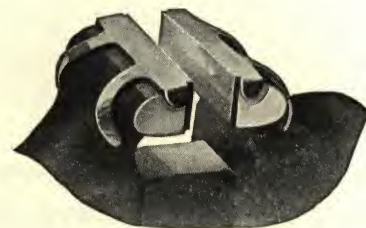
Width of jaws, 3 1/2 inches; opening, 5 1/4 inches; depth of jaws, 5/8-inches.

Individually boxed in carton with 6 in a case.

Weight, 17 pounds; per case, 115 pounds.

No. 631 1/2each \$9.00

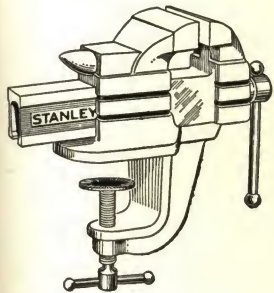
Morgan Brass Caps for Vise Jaws



Used to protect work from regular corrugated jaw faces. Made of brass and are put in place with finger prongs, holding them securely in place and yet are easily removed.

Width of Jaw....inches	3	3 1/2	4	4 1/2	5	6
Each.....	\$3.00	3.60	4.20	5.00	6.20	10.00

Stanley Clamp Base Vises

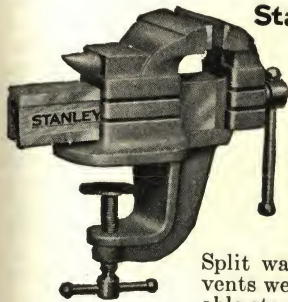


**Stationary Iron Jaws—
Stationary Clamp Base**

Will clamp to benches of various thicknesses up to 2 inches.

Also provided with holes so it may be permanently attached to the bench.

No.	741	743	745	746
Each	\$5.00	5.50	6.00	7.50
Size Jaws	inches 1½	2	2½	3
Jaws Open	inches 1¾	2	2¾	3



Stanley Clamp Base Vises

**Stationary Base and
Replaceable Steel Jaws**

Can be clamped or screwed to a board or a bench up to 2 inches thick. Vise handle type clamping screws. One-piece steel vise screw (body, head and collar), has square lathe-cut thread working in malleable nut.

Split washer under head of screw prevents wear on jaws. Hardened replaceable steel jaws accurately machined.

No.	761	763	765	766
Bright Nickel and Dark Blue Fin.	ea. \$6.50	7.00	8.00	9.50
Jaws	1½	2	2½	3
Jaws Open	1¾	2	2¾	3
Weight	3¼	4	5¾	9¾

No. 700 Stanley Woodworkers' Vises



Portable. Can be attached to bench, table, etc., in various positions. L-shaped jaws hold work firmly: horizontally as well as vertically. Jaw faces covered with tempered presdwood and can be replaced when worn out. Slack-free jaw and screw control insure rigidity and easy operation.

Jaw width: horizontal, 5 inches; vertical, 4¾ inches. Jaws open 3½ inches.

Steel screw parts nickel-plated to prevent rust;

other parts grey enamel, red trim.

No. 700; Shipping Weight, 6 Pounds.....each \$5.50

No. 655 Champion Woodworker's Vises

Aluminum Jaws



This vise can be carried in the carpenter's kit. It will fasten to anything from ⅞ to 2¼ inches thick.

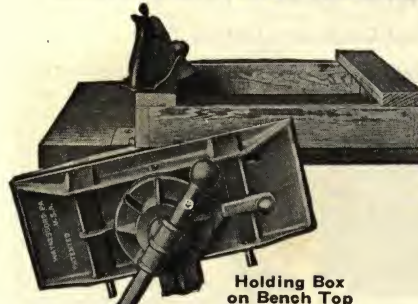
Has screw holes in each aluminum jaw for fastening in wood jaws if desired. Opens to 2½ inches.

The size of the jaw is 6 inches in length.

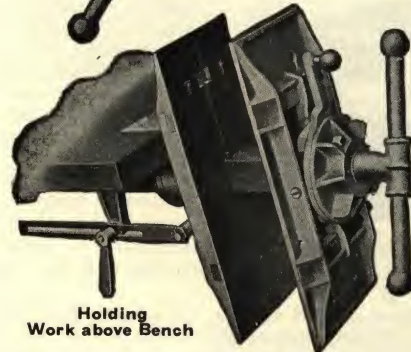
Weight, 2¾ pounds.

No. 655.....each \$5.58

Emmert Universal Woodworkers' Vises



**Holding Box
on Bench Top**



**Holding
Work above Bench**

Grips difficult, as well as ordinary, holding and clamping applications.

Securely holds all classes and shapes of work in almost any conceivable position, without loosening jaws.

Has seven jaw combinations carrying jaw widths of 18, 7, to 3 and 1 inch. The 3-inch jaws are hardened steel faced for holding metal work.

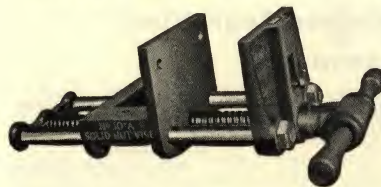
Front jaw is instantly adjustable to tapered pieces, etc. Also a floating jaw is furnished which adjusts

itself to irregular work. Vise jaws have key hole openings for liners.

Vise has web and rib reinforced jaws and heavy steel screw with double lead thread.

Vise No.	Each	Side Jaw Inches	Opens Inches	Weight Pounds
1	\$57.75	7x18	15	86
2	51.15	5x14	12	56

Morgan Solid Nut Continuous Screw Vises



Vise has extra heavy cold rolled screw and solid nut.

Every part is accurately machined; interchangeable cold rolled side bars are threaded

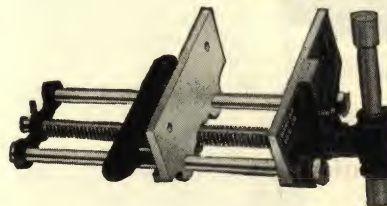
and held in place by hexagon nuts; not riveted. Hardwood handle; stop in front jaw.

No.	10A	15A	20A
Each	\$17.00	18.00	20.00
Width of Jaw	inches 7	8	10
Depth of Jaw	inches 4	4	4
Jaw Opens	inches 9	9	12
Weight	pounds 23	26	30

*Can be furnished with 12-inch opening at \$1.00 extra.

Morgan Quick-Action Woodworkers' Vises

Toles Pattern



The screw, having intercepted threads, operates in a half nut, a slight turn of the handle disengaging the screw and permitting jaw to slide back and forth.

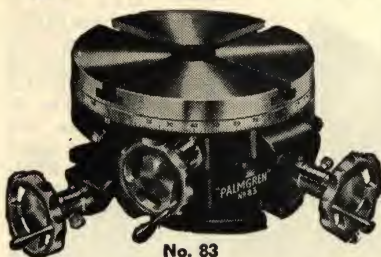
No.	Without Stop		With Stop	
	100	200	100A	200A
Each	\$18.00	21.00	19.00	22.00
Width Jaw	inches 7	10	7	10
Jaw Opens	inches 9	12	9	12
Weight	pounds 30	36	31	37

Palmgren Rotary Tables

With Dual Cross and Rotary Feed



No. 82



No. 83

Designed for use in all types of metal and woodworking shops. Can be used on any drill press, lathe or milling machine. Combines in one unit an indexing table, rotary table and a milling table. A precision machine, permitting exceedingly fine work to close tolerances. Accurate and speedy, it is strong and sturdy in construction and attaches quickly in a firm position.

Rotary feed calibrated in degrees; cross feed in thousandths. Dual

cross slide with cross feed $2\frac{1}{8}$ inches each side of center or $4\frac{1}{4}$ inches overall.

Has acme thread cross feed screws, adjustable gibs on cross slides; 40-1 worm and gear ratio in rotary feed. Provided with take-up adjustment for wear in worm feed. Has 4 bolt slots for bolting to machine table, also 2 locking screws for locking rotary table in position.

Base keyway, $\frac{5}{8}$ inch. Table T-Slots, $\frac{5}{8}$ inch. Table diameter, 8 inches. Base diameter, $6\frac{1}{4}$ inches. Height, 5 inches.

No. 82, without Rotary Feed; Ship. Wt., 35 Lb....ea. \$43.75
No. 83, with Rotary Feed; Ship. Wt., 37 Lb.....ea. 54.45

No. 24 Palmgren Angle Vises

Swivel Base

Designed for quick accurate set-ups and heavy service, Accurately graduated in degrees and adjusted quickly to any angle.



Stays locked under most severe strain.

Swivel base is graduated over full 360°.

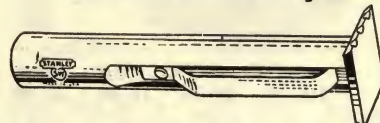
Necessary blocks are furnished to fit slots in machine table. Width of jaws, 4 inches. Depth of jaws, $1\frac{1}{2}$ inches. Opening of steel grooved jaws, 4 inches.

Overall length, $12\frac{3}{4}$ inches. Height overall, 5 inches.

Weight with base, 37 pounds.

No. 24.....each \$29.75

No. 207 Stanley Bench Stops

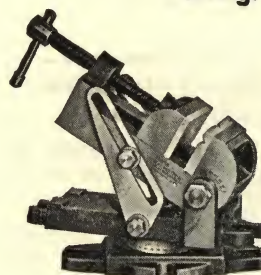


Can be inserted in the top of a bench by boring a $\frac{9}{16}$ -in. hole. Adjustable height—held in position by a spring. Cadmium-plated. Length, $2\frac{3}{8}$ inches.

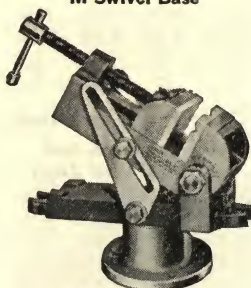
Packed 6 in a box.

No. 207, Weight, 3 Pounds.....each \$1.05

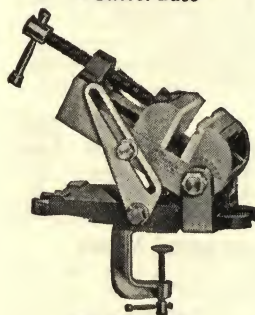
Palmgren Angle Vises



No. 000, with M Swivel Base



No. 000, with B Swivel Base



No. 000, with C Clamp Base

A drill press, milling machine, grinder and bench vise all in one. For general shop use, production or tool work.

Permits setting up angle work accurately and quickly. Can also be used like an ordinary vise when locked to horizontal position. Accurately graduated for angle work. By raising the vise to the desired angle and locking adjustable support by tightening screws, it is ready for use. All parts accurately machined. Base, body and sliding jaw of semi-steel casting. Adjusting screw has fine pitch thread and long bearing in vise body.

No. X0 has steel plain jaws. No. X1 has grooved jaws. No. 0 grooved vertically and horizontally for holding round pieces. No. 00 has ground steel plain jaws. No. 000 has ground steel jaws grooved for holding round pieces.

M Swivel Base. Height, $1\frac{1}{4}$ inches; width, 3 inches; length, 6 inches. Graduated over full 360 degrees. Furnished with two $\frac{5}{8}$ -inch blocks to fit slots in machine table, screw and lock wrench.

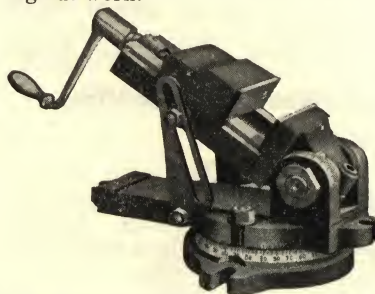
B Swivel Base. For work bench in shop, laboratory or home shop. Height, 3 inches; diameter 4 inches. Furnished with screws and lock nuts for secure locking in any position.

C Clamp Base. For fastening vise to bench, table or tool box. Size $1\frac{1}{8}$ and $2\frac{1}{8}$ -inch clamp opening. Wrench included.

No.	Vise Only Each	Base Only			SIZE JAWS			Overall Lgth. In.	Vise Only
		M Each	B Each	C Each	Width	Depth	Opening		
X0	\$4.75	\$1.45	\$1.15	\$1.75	$1\frac{1}{2}$	1	$1\frac{5}{8}$	$6\frac{1}{2}$	$4\frac{1}{2}$
X1	4.95	1.45	1.15	1.75	$1\frac{1}{2}$	1	$1\frac{5}{8}$	$6\frac{5}{8}$	$4\frac{1}{2}$
0	8.40	3.00	3.00	2.85	$2\frac{1}{16}$	$1\frac{1}{2}$	$2\frac{1}{2}$	9	$9\frac{1}{2}$
00	8.60	3.00	3.00	2.85	$2\frac{1}{16}$	$1\frac{1}{2}$	$2\frac{1}{2}$	$8\frac{7}{8}$	10
000	8.75	3.00	3.00	2.85	$2\frac{1}{16}$	$1\frac{1}{2}$	$2\frac{1}{2}$	9	10

Palmgren Heavy Duty Angle Vises

For milling, drilling, grinding and for checking and laying out work.

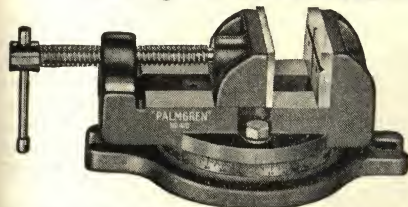


Accurately graduated in degrees; quickly adjusted to any angle; stays locked under most severe service. Jaws of high grade steel, ground. Hinge pin and screws are hardened. Extra heavy acme thread adjusting screw with renewable screw bush-

ing. Can be used as an ordinary vise when lowered to horizontal position.

No.	Vise Only	each	each	each
No.	2	3	4	
Vise Only	\$87.45	137.50	181.50	
Vise with Swivel Base	101.20	154.00	209.00	
Width Jaws	4	6	8	
Opening Jaws	4	6	8	
Depth Jaws	$1\frac{1}{2}$	2	$2\frac{1}{4}$	
Weight of Vise	48	132	179	
Wt. of Vise with Swivel Base lb.	57	147	225	

Palmgren Swivel Machine Vises



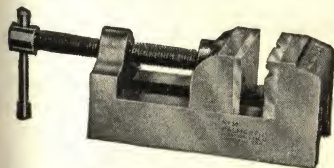
For use on milling machines, grinders, drill presses, tapping machines, saws, etc. Ground steel jaws; one has vertical and horizontal V-

groove to hold round pieces; one plain jaw. With accurate acme thread adjusting screw. Complete with swivel base accurately graduated 360°, clearly cut.

No.	With Base Each	DIMENSIONS, IN.					Net Wt. Comp. Lb.
		Jaw Wdth.	Jaw Open.	Jaw Dep.	Lgth.	Ht.	
310	\$19.25	3	3	1½	9	3¾	10½
410	21.85	4	4	1¾	11¾	4¾	21
610	46.75	6	6	2	14½	5¾	43½

No. 14 Palmgren Drill Press Vises

This is a medium size drill press vise, precision made, and strongly built to withstand heavy service.



Accurately machined with adjusting screw made of steel, with fine pitch thread and long bearing in body.

Grooved jaws. Width of jaws, 4 inches. Depth of jaws, 1¾ inches. Opening of jaws, 4 inches.

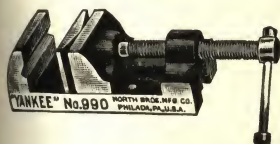
Length overall, 10¾ inches. Height overall, 3⅞ inches.

Weight, 17 pounds.

No. 14.....each \$13.95

No. 990 Yankee General Utility Vises

With Swivel Jaw



For use with drill press, or machining operations. Can be fastened to work bench with C clamp or screws, for which holes are provided.

Holds irregular shapes, tapered pieces and round stock.

By means of V-groove in front jaw, round work is held rigid and parallel. Tapered pieces are securely held by removable swivel jaw which is made of steel and casehardened.

Base length, 5¾ inches. The jaws open 3 inches without swivel, and 2⅝ inches with swivel inserted. Depth of jaws, 1⅝ inches; width, 2⅝ inches. Length overall, 6¾ inches; and height overall, 2 inches.

Net weight, 4½ pounds.

No. 990.....each \$11.34

Yankee Vises

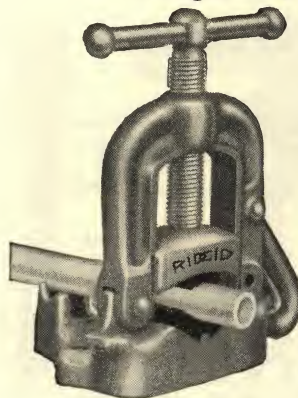


Can be used on bench, or on a bench drill or other small machines.

The vise is accurately machined all over so it can be used on either side or end as well as on base in drill press, etc. A hardened steel block with V-shaped grooves is provided for holding round or irregular shaped work.

No.	Each	BASE, IN.		JAWS, INCHES			Ht. Overall In.	Lgth. Overall In.	Net Wt. Lb.
		Length	Width	Open-ing	Depth	Width			
991	\$10.66	3⅝	1½	1½	7/8	1½	1½	4⅝	13⅝
992	12.40	4⅞	2	1½	1¼	2	2½	6	3⅝
993	19.34	7¼	2¾	3	1⅞	2¾	3	8¾	9⅞
994	40.00	10½	4	4	2⅞	4	4⅞	12¼	28

Ridgid Yoke Bench Vises



Capacity, ⅛ to 6 inches. Unusually handy and efficient. Convenient pipe rests and benders.

Strong special malleable frames; highest quality No-Mar tool steel jaws.

No.	Each	Max. Cap. In.	Ship. Wt. Lb.
BY-1¼	\$5.30	1¼	3¼
BY-2A	7.95	2	8½
BY-2½	9.50	2½	11½
BY-3	12.70	3	16½
BY-3½	14.25	3½	16½
BY-4	17.30	4	20½
BY-4½-5	19.70	5	31½
BY-6	44.40	6	52½

Ridgid Tri-Stand Pipe Vises



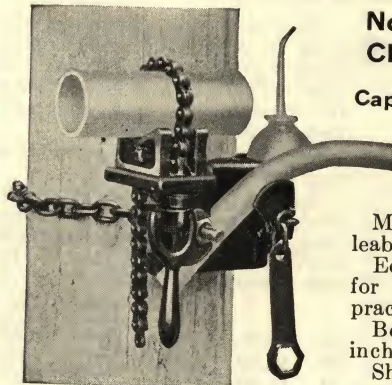
Wide, roomy; for dope pot, oil can and tools; balanced; special rim and slots for hanging tools; adjustable ceiling brace; pipe rest, 3 benders that will not collapse pipe; legs hinged to fold in; chain for carrying screwdown feet; special malleable metal frame; tool steel jaws, hardened for grip and long wear.

No. 40, yoke type: capacity, ⅛—2½ in.; base; lower jaw; jaw bolts; tool tray with fittings; jack screw assembly; top or bottom screw assembly; yoke and hook assembly; 2 clamps; upper jaw; shipping weight complete, 55 lb. Each.....\$26.95

No. TSC-4, chain type: capacity, ¼—4 in.; base; lower jaw; jaw bolts; tool tray with fittings; jack screw assembly; link chain assembly; chain screw handle and nut; link chain and screw; shipping weight complete, 50 lb. Each.....\$28.75

No. P-C-5 Ridgid Chain Post Vises

Capacity, ⅛ to 5 Inches



A light, strong chain vise, fits any shape or material post.

Made of special malleable iron.

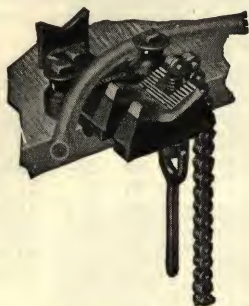
Equipped with tray for oil can, and with a practical pipe bender.

Bending capacity, 1 inch. Shipping weight, 20½ pounds.

No. P-C-5.....each \$16.25

Ridgid Chain Bench Vises

Capacity, $\frac{1}{8}$ to 8 Inches



Special malleable frame, jaws of high quality tool steel.

Has pipe rest and bender.

No.	Each	Cap. In.	Bending Cap. In.	Ship. Wt. Lb.
BC-2	\$5.85	$\frac{1}{8}$ -2	1	5 $\frac{1}{2}$
BC-4	11.90	$\frac{1}{4}$ -4	1	12 $\frac{1}{2}$
BC-5	15.95	$\frac{1}{4}$ -5	1	13
BC-6	21.45	$\frac{1}{2}$ -6	1	20
BC-8	28.60	$\frac{1}{2}$ -8	1 $\frac{1}{4}$	36

No. S-C-5 Ridgid Chain Vise Stands

Capacity, $\frac{1}{8}$ to 5 Inches



Handy portable chain vise stand. Sturdy malleable iron frame, high quality tool steel jaws.

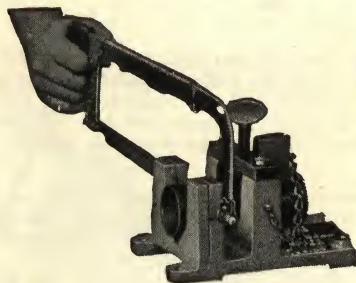
Equipped with pipe rest, pipe bender and tool tray.

Legs and connecting pipes not furnished.

Shipping weight, 23 $\frac{1}{2}$ pounds.

No. S-C-5.....each \$18.50

Imperial-Beaver Sawing Vises



Holds pipe or tubing firmly and provides a guide for a standard hacksaw, thus making possible perfect right angle cuts. Holding pressure is so applied that the tubing will not be crushed, marred, or flattened. Can be used for hard or soft tubing. Vises have removable inserts.

No.....	184-F	185-F
Malleable Iron.....each	\$13.00	30.50
O. D. Tubing.....inches	$\frac{3}{16}$ -2 $\frac{3}{8}$	1 $\frac{1}{2}$ -4
Approx. Weight.....pounds	5 $\frac{1}{2}$	22

Toledo Malleable Open-Side Pipe Vises



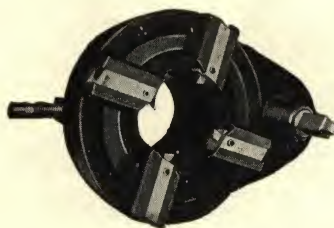
This pipe vise eliminates the need of unlatching and tipping back a yoke for long lengths of pipe. The operator simply slips the pipe in the open side and tightens down the jaws.

Handle is extra long, permitting easy setting of the vise jaws.

Both upper and lower jaws are heat treated steel, full overlapping. Jaw construction permits working close to the face of the vise. Jaws easily replaced.

No.	Each	Capacity Pipe Inches	Length Jaws-Inches	Ship. Weight Pounds
00	\$8.00	$\frac{1}{8}$ -1 $\frac{1}{2}$	2 $\frac{1}{4}$	6 $\frac{3}{4}$
0	10.00	$\frac{1}{8}$ -2 $\frac{1}{2}$	2 $\frac{1}{2}$	12
3	18.00	$\frac{1}{8}$ -4 $\frac{1}{2}$	3 $\frac{1}{4}$	27

Toledo Automatic Pipe Cutters



Cutters cut smoothly. Knives are fed automatically. Operated with ratchet handle or Toledo power drive. Outfit consists of tool body, ratchet handle, set-screw wrench bushings, and extra set of cutter blades.

No. 80 has two sets of cutter blocks.

	No. 40-Cap., 2 to 4-In. Pipe	No. 80-Cap., 4 $\frac{1}{2}$ to 8-In. Pipe
	Each Ship. Wt. Lb.	Each Ship. Wt. Lb.
Complete Cutter.....	\$120.00 86	266.00 189
4 Cutter Blades.....	5.00 1	5.00 1
4 Special 45° Beveled Cutter Blades	8.00 1	16.00 1
4 Special Victaulic Grooving Blades	8.00 1	9.00 1

Ridgid Pipe Cutters

No. 42, Cap., $\frac{1}{2}$ to 2 In.

No. 44, Cap., 2 $\frac{1}{2}$ to 4 In.



Used in trenches and close quarters. Four heavy duty wheels made of special tool steel. Heavy duty malleable alloy frame.

No.....	42	44
Each.....	\$10.50	38.10
Heavy Duty Wheel.....each	.66	1.15
Frame.....each	6.10	23.10
Screw Handle.....each	1.45	4.50
Pipe Handle.....each	....	1.60
Roll Housing.....each	2.30	7.70
Pin and Clip.....per set	.28	.37
Guide Block Assembly.....each	....	1.95
Weight.....pounds	7 $\frac{1}{2}$	17 $\frac{3}{4}$

Ridgid Heavy Duty-Pipe Cutters



Nos. 1 and 2



Nos. 3 and 4

Equipped with either heavy duty cutter wheels or Ridgid patented thin blade wheel; may be made 3 wheel.

No.	1	2	3	4	6
Each.....	\$6.70	8.95	15.00	30.00	45.00
Capacity...inches	$\frac{1}{8}$ to 1 $\frac{1}{4}$	$\frac{1}{8}$ to 2	1 to 3	2 to 4	4 to 6
Weight....pounds	6 $\frac{1}{2}$	7 $\frac{1}{2}$	15 $\frac{1}{4}$	18 $\frac{3}{4}$	20



Cutter Roll Pin



Cutter Roll



Wheel for Cast Iron Pipe



Heavy Duty Wheel



Thin Wheel

No.	Std. Thin Wheel Each	Hvy. Duty Wheel Each	Cast Iron Wheel Each	Frame Each	Screw Hdle. Each	Pipe Hdle. Each	Roll Housing Each	Roll Each	Pin and Clip Each
1	\$.60	\$.66	\$.60	\$ 3.10	\$ 1.45	....	\$ 2.00	\$.42	\$.28
2	.60	.66	.60	5.45	2.30	....	2.00	.42	.28
3	.94	1.15	1.05	6.60	4.50	1.60	2.35	1.00	.37
4	.94	1.15	1.05	20.00	4.50	1.60	6.80	1.00	.37
6	....	1.36	1.65	30.75	4.50	1.60	9.65	1.00	.37

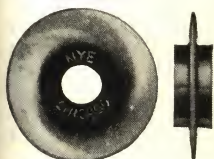
Nye Universal Pipe Cutters One Wheel



Hollow malleable body light and well balanced for easy operation. Spring holds wheel block against screw end of handle. Pins have square heads which prevent turning.

Standard equipment, 2 rollers and 1 smooth edge wheel.

No.	N1-UC	N2-UC	N4-UC
Each.	\$6.70	8.95	30.00
Size No.	1	2	4
Cuts Pipe. inches	1/8-1	1/8-2	2-4 1/2
Shipping Weight. pounds	3	6	17 3/4



Nye Cutter Wheels, Pins and Rollers Fit All Standard Makes of Pipe Cutters

Smooth edge wheel of hardened and tempered alloy steel; thin blade.

No.	Type Cutter	Fits Cutter Size No.	Wheels Each	Pins Each	Rollers Each
1&2-R	Ridgid	No. 1 or No. 2	.60	.30	.40
	Nye	No. 2N	.60	.30	.35
	Oster	No. 502 Power Machine	.60	..	..
3&4-R	Ridgid	No. 3 or No. 4	.95	.40	.80
1&2-T	Trimo	No. 1 or No. 2	.65	.25	.35
	Nye	1T or 2T (Formerly 1A & 2A)	.65	.25	.35
	Reed	1R or 2R Roller Block Only	.65	.25	.35
	Beaver	102 and Mod. A or B Machines	.65	..	..
3-T	Trimo	No. 3	1.15	.25	.55
	Nye	No. 3T (Formerly 3A)	1.15	.25	.55
	Reed	No. 3R Roller Block Only	1.15	.25	.55
1-U	Universal	Nye No. 1	.55	.30	.40
2-U	Universal	Nye No. 2	.60	.30	.40
4-U	Universal	Nye No. 4	1.15	.40	.55
1-B	Barnes	No. 1 All Makes	.60	.25	.35
	Reed	1W and Hook End Only on 1R	.60	.25	..
2-B	Barnes	No. 2, All Makes	.68	.25	.40
	Reed	2W, 2F and Hook End Only on 2R	.68	.25	..
3-B	Barnes	No. 3, All Makes	.95	.25	.55
	Reed	3W and Hook End Only on 3R	.95	.25	..
4-B	Barnes	No. 4, All Makes	1.15	.30	.55
5-7B	Barnes	Nos. 5, 6, 6 1/2 or 7, All Makes	1.30	.30	.60
1-S	Saunders	No. 1, All Makes	.60	.25	.35
2-S	Saunders	No. 2, All Makes	.68	.25	.40
3&4-S	Saunders	Nos. 3 or 4, All Makes	1.30	.30	.55
5S	Saunders	No. 5, All Makes	1.30	.30	.60
N10CW	Nye for	No. 10 Tube Cutter	.45	.25	.30
N25CW	Nye for	No. 25 Tube Cutter	.45	.25	.30

*Heavy duty wheels available, specify on order.

†Heavy duty wheels available, specify on order.

‡When ordering, add letter H to part number.

§Specify whether for wheel or roller.

Lightning Bit Brace Burring Reamers



For pipe or thin metal reaming.

Made of high grade drop forged steel. Blades are spaced to give easy starting and smooth cutting action.

No.	23	24
Each.	\$1.50	2.50
Capacity Pipe. inches	1/4-1 1/4	1/4-2
Diameter at Point.	1/4	1/4
Diameter at Large End. inches	1 15/32	2 17/64

Ridgid Longrip Pipe Reamers



No. 00-R Ratchet Handle

At Top, Reamer Unit
At Bottom, Reamer and Ratchet Handle

Because of long taper design, reamer cuts burrs cleanly from inside of pipe or conduit with practically no pressure. Does not reduce wall of threading end nor flare or split pipe.

No. 2

Capacity, 1/8 to 2 inches. Complete with ratchet handle. Reamer unit may be purchased separately for use in No. 2-00R small ratchet die handle. Ratchet handle can be used with unit shown as well as with No. 2-00R die heads.

No. 2, Complete; Weight, 6 1/4 Pounds. each	\$10.30
No. 2, Reamer Unit Only. each	7.70
No. 2, Reamer Cone Only. each	4.65
No. 2-00R, Ratchet Handle. each	2.52

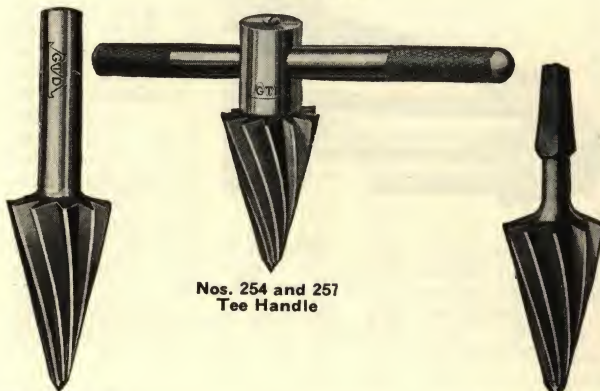
No. 3

Capacity, 3/8 to 3 in. Complete with ratchet handle, No. 3-111R, for use with reamer unit or with No. 3-111R die heads.

No. 3, Complete; Weight 12 Pounds. each	\$13.90
No. 3, Reamer Unit Only. each	10.45
No. 3, Reamer Cone Only. each	6.95
No. 3-111R, Ratchet Handle. each	2.95

GTD Spiral Fluted Burring Reamers

Carbon Steel



Nos. 232 to 234
Round Shank

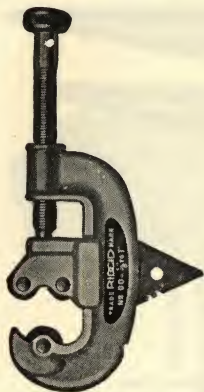
Nos. 241 to 244
Bit Brace Shank

Designed for removing burrs caused by cutting pipe, and also for counter-sinking. Can be used in a variety of materials. Spiral flute reduces chattering.

Made of high grade steel.

No.	Each	Style of Shank	Capacity Pipe Inches	Point	Large End
232	\$1.25	1/2-Inch Round	1/8 to 1	3/16	1 1/4
233	1.50	1/2-Inch Round	1/4 to 1 1/4	1/4	1 15/32
234	3.00	1/2-Inch Round	1/4 to 2	3/4	2 17/64
241	1.00	Bit Brace	1/8 to 1/2	3/16	1 1/4
242	1.25	Bit Brace	1/8 to 1	3/16	1 1/4
243	1.50	Bit Brace	1/4 to 1 1/4	1/4	1 15/32
244	3.00	Bit Brace	1/4 to 2	1/4	2 17/64
254	6.00	T Handle	1/4 to 2	1/4	2 17/64
257	18.00	T Handle	1 1/2 to 3 1/2	1 39/64	3 9/8

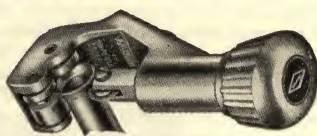
Ridgid Copper and Brass Tubing Cutters



With Rolls
Cuts quickly, no burr.
Rollers smooth tube ready for soldering. Handy integral reamer.

No.....	000	00	0
Complete.ea.	\$2.35	\$2.70	\$4.90
Cutter Wheel			
.....each	.44	.44	.44
Frame.....each	1.20	1.65	2.80
Roll Housing			
.....each	.62	.75	1.05
Roll.....each	.20	.28	.40
Roll Pin.each	.20	.20	.20
Wheel Pin.ea.	.20	.20	.20
Screw Handle			
.....each	.62	.82	1.22
Capacity, O.			
D.....inches	1/8-1	3/16-1 1/8	1/2-2 1/8
Weight...lb.	3/4	1	2

Imperial Tube Cutters



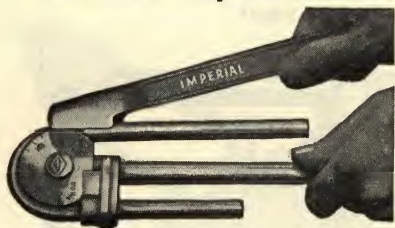
No. 274-F

Quickly cuts copper, brass, aluminum, block tin, Bundy steel or lead tubing. Tubing rests against two rollers making operation easy. Hardened cutting wheel and aluminum alloy body, polished finish. Groove in rollers permits cutting tube right at base of flare; retractable reamer. Ball-bearing action on Nos. 274-F and 312-F.

No.....	274-F	312-F	*204-F
Each.....	\$3.70	4.35	7.55
For Tubing, O.D.....inches	1/8 to 1	1/4 to 1 3/8	7/8 to 2 1/4
Weight.....pounds	3/8	3/4	1 3/4

*Without reamer or flare cut off groove.

No. 364-F Imperial Hand Tube Benders



Used to make bends any angle up to 180° at the end or at any part of the tubing.

Calibrated to show degree positions. A different bender is required for each size of tubing except 3/16-in. size which can also

be used for 1/8-inch size. Light in weight, yet extremely rugged and durable. Bender in 3/8 and 3/4-inch sizes slightly different in construction from smaller sizes.

O. D. Tubing...in.	3/16	1/4	5/16	3/8	1/2	5/8	3/4
No. 364-F.....each	\$6.35	6.35	7.35	7.20	12.15	23.15	31.00
Radius to Ctr. of Tube.in.	7/16	9/16	11/16	15/16	1 1/2	2	2 1/2
Weight.....lb.	9/16	3/4	1 1/4	1 3/4	9	10	10 1/2

No. 102-F Imperial Tube Benders

External Type

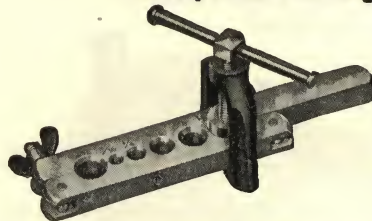


Bends tubing by hand to any desired shape without collapsing the

tube. Consists of an especially prepared spring wire coil. Furnished in six sizes to take copper, aluminum and other soft, thin-walled metal tubing. Springs have black protective finish. Belled end assures ease in removing from tubing after bend has been made.

Size.....in.	1/4	5/16	3/8	7/16	1/2	5/8
No. 102-F.....ea.	\$.35	.40	.45	.60	.65	.70
Length.....in.	10	10	10	12	12	12
Weight.....oz.	3	3	4	6 1/4	6 1/2	8
No. 101-F, Set of 6, One of Each 1/4, 5/16, 3/8, 7/16, 1/2, and 5/8-Inch Size.....per set						\$2.85
No. 163-F, Set of 4, One of Each 1/4, 3/8, 1/2, and 5/8-Inch Size.....per set						2.05

Imperial Flaring Tools



Flares soft copper brass or aluminum tubing to make up S.A.E. joints.

No. 93-F. Yoke made of steel forging and furnished with cone which rotates with the

screw. For 3/16, 1/4, 5/16, 3/8, 7/16 and 1/2-inch tubing.....each \$4.20

No. 95-F. Yoke made of steel forging and furnished with cone which rotates with the screw. Specially designed for sizes used in electrical refrigerator work—1/4, 5/16, 3/8, 1/2, and 5/8-inch tubing.....each \$5.15

No. 95-FS. Same as No. 95-F, except with swivel cone which remains stationary, while screw is turned.....each \$5.40

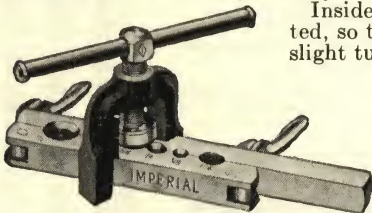
Extra Parts

No.	Description	Each
33465	Yoke Assembly for Nos. 93-F and 95-F.....	\$1.70
38379	Yoke Assembly for No. 95-FS.....	1.94
30077	Bar for No. 93-F.....	2.75
30231	Bar for Nos. 95-F and 95-FS.....	3.90
38584	Wing Nut.....	.25
25384	Compressor Cone for Nos. 93-F and 95-F.....	.40
32532	Compressor Cone for No. 95-FS.....	.40

Imperial Flaring Tool with Slip-On Yoke

Flares soft copper, brass or aluminum tubing. Forged steel yoke is made to slip directly over bar without twisting.

Inside edges of yoke are slotted, so that once in position, a slight turn holds it in place.



Nos. 193-F and 195-F have flaring cone which rotates.

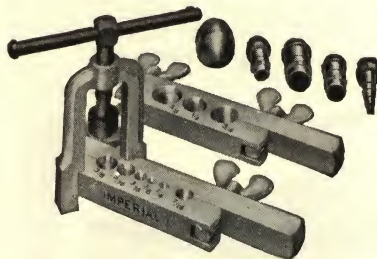
No. 193-F, for Flaring 3/16, 1/4, 5/16, 3/8, 7/16 and 1/2-Inch O. D. Tubing.....each \$4.20

No. 195-F for Flaring 1/4, 5/16, 3/8, 1/2 and 5/8-Inch O.D. Tubing.....each \$5.15

No. 195-FS is the same as No. 195-F except with a swivel-type cone which remains stationary while screw is turned when flaring—advantageous with large tubes.

No. 195-FS......each \$5.40

Imperial Flaring and Swedging Tools



Flares or swedges soft copper, brass or aluminum tubing from 1/8 to 3/4-inch O. D.

Parts include 2 bars, yoke to attach to bars, adapters for swedging and spreader cone for flaring.

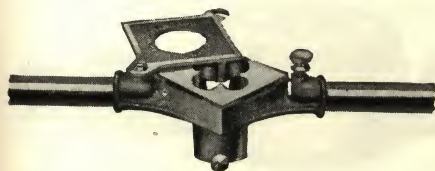
No. 275-FS

No. 275-FS, Complete; Net Weight, 3 1/2 Lb.....each	\$12.50
No. 276-FS, Tool and Flaring Cone Only; Net Weight, Approx. 3 1/4 Pounds.....each	7.15
No. 278-FS, Adapters; Specify Size.....each	1.45

Extra Parts

No. 38593, Yoke Assembly only, for 275-FS and 276-FS.....each	\$2.75
No. 38600, Compressor Cone Only for 275-FS and 276-FS.....each	.85
No. 38766, Bar for 1/8, 3/16, 1/4, 5/16, 3/8, 7/16-In. O.D.....each	2.75
No. 38767, Bar for 1/2, 5/8, 3/4-In. O.D. Tubing.....each	2.75

Armstrong Bros. Solid Pipe Die Sets



Ring Guide

Each set consists of one stock complete with an assortment of dies and guides as listed. Right-hand American National (Briggs) dies will be sent if not otherwise specified. Left-hand dies take double list.

Furnished with ring guides.

Set No.	Per Set	For Threading Pipe Size—Inches	Size of Dies, Inches	Weight Pounds per Set
0	\$8.92	Any One Size	2 x2 x1/2	4
0-2	11.04	1/2, 3/4	2 x2 x1/2	4 1/2
0-3	14.32	3/8, 1/2, 3/4	2 x2 x1/2	5
0-4	17.68	1/4, 3/8, 1/2, 3/4	2 x2 x1/2	5 1/2
0-4A	17.68	1/8, 1/4, 3/8, 1/2	2 x2 x1/2	5 1/2
0-5	20.46	1/8, 1/4, 3/8, 1/2, 3/4	2 x2 x1/2	6 1/2
1	11.04	Any One Size	2 1/2 x2 1/2 x3/4	13
1-2	13.32	1/2, 3/4	2 1/2 x2 1/2 x3/4	11 1/2
1-3	16.56	1/2, 3/4, 1	2 1/2 x2 1/2 x3/4	12
1-4	19.84	3/8, 1/2, 3/4, 1	2 1/2 x2 1/2 x3/4	12 1/2
1-5	23.23	1/4, 3/8, 1/2, 3/4, 1	2 1/2 x2 1/2 x3/4	13
1-6	26.47	1/8, 1/4, 3/8, 1/2, 3/4, 1	2 1/2 x2 1/2 x3/4	14
1 1/2	14.32	Any One Size	3 x3 x3/4	12 3/4
1 1/2-2	20.95	3/4, 1	3 x3 x3/4	14
1 1/2-3	20.95	3/4, 1, 1 1/4	3 x3 x3/4	16 1/4
1 1/2-4	25.36	1/2, 3/4, 1, 1 1/4	3 x3 x3/4	16
1 1/2-5	29.76	3/8, 1/2, 3/4, 1, 1 1/4	3 x3 x3/4	18
1 1/2-6	34.28	1/4, 3/8, 1/2, 3/4, 1, 1 1/4	3 x3 x3/4	22
2-3	32.02	1 1/4, 1 1/2, 2	4 x4 x7/8	25
2-4	37.56	1, 1 1/4, 1 1/2, 2	4 x4 x7/8	29
2-5	43.08	3/4, 1, 1 1/4, 1 1/2, 2	4 x4 x7/8	33
2-6	48.60	1/2, 3/4, 1, 1 1/4, 1 1/2, 2	4 x4 x7/8	37

No.	Stock without Dies or Guides Each	Extra Ring Guides Each	Extra Lead Screws Each	Extra R.H. Dies Each	Extra Handles per Pr.	Dimen. Dies In.
0	\$6.55	\$.61	....	\$ .42	\$3.22	2 x2 x1/2
1	7.75	.82	....	.61	3.75	2 1/2 x2 1/2 x3/4
1 1/2	9.00	1.24	....	1.03	4.60	3 x3 x3/4
2	18.84	1.54	\$4.09	1.03	5.79	4 x4 x7/8

Ridgid Ratchet Pipe Threaders



With Exposed Ratchet

Steel and malleable dies for small pipe.

No. 00-R threads 1/8, 1/4, 3/8, 1/2, 3/4, and 1-inch pipe.

No. 111-R threads 1/8, 1/4, 3/8, 1/2, 3/4, 1, and 1 1/4-inch pipe.

Electrical conduit dies available at regular right-hand die prices.

Capacity, In.	No. 00-R Each	Wt., Lb.	Capacity, In.	No. 111-R Each	Wt., Lb.
1/8 to 1	\$23.45	15	1/8 to 1 1/4	\$29.10	22 1/2
1/8 to 3/4	18.75	12	1/8 to 1	25.25	19 1/2
1/4 to 1	20.40	13 1/2	1/4 to 1 1/4	25.75	20 1/2
1/4 to 3/4	15.65	11	1/4 to 1	21.65	17 1/2
3/8 to 1	17.35	12	3/8 to 1 1/4	22.20	18 1/2
3/8 to 3/4	12.60	9 1/2	3/8 to 1	18.10	15 1/2
1/2 to 1	14.20	10 1/2	1/2 to 1 1/4	18.60	16
1/2 to 3/4	9.50	8	1/2 to 1	14.55	13
1/8, 1/4, and 3/8-Inch Chasers.....	per set				
1/2 and 3/4-Inch Chasers.....	per set				
1-Inch Chasers.....	per set				
1 1/4-Inch Chasers, For No. 111-R Only.....	per set				

Armstrong Bros. Adjustable Pipe Dies In Sets With Stocks



Ring Guide

Adjustable Guide

The dies in these sets are made from special vanadium tool steel with "backed off" chasers making them easy cutting and long lasting.

Each set consists of one stock complete with an assortment of dies and guides, as listed, and a drop forged wrench. American National Standard (Briggs) right-hand dies will always be sent unless otherwise specified in order. Ring guides are standard equipment; Adjustable guide furnished only when specified.

Each set is packed in an individual wooden box with hinged cover.

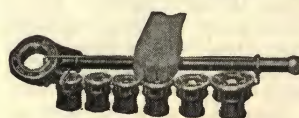
Set No.	Comp. With Ring Guides Per Set	Comp. With Adjustable Guides Per Set	Stock Comp. Without Dies or Guides Each	Extra Holes per Pair	For Threading Pipe Size Inches	Weight Pounds Per Set
1 -A	\$10.24	....	\$6.76	\$1.54	Any One Size	4
1 -A-2	12.70	....	6.76	1.54	3/8, 1/2	4 1/2
1 -A-3	15.55	....	6.76	1.54	3/8, 1/2, 3/4	5
1 -A-4	18.42	....	6.76	1.54	1/8, 1/4, 3/8, 1/2	5 1/2
2 -A	12.28	\$16.36	8.17	2.56	Any One Size	8 1/2
2 -A-2	14.32	18.42	8.17	2.56	1/2, 3/4	9 1/2
2 -A-3	17.89	22.00	8.17	2.56	1/2, 3/4, 1	10 1/2
2 -A-4	21.49	25.57	8.17	2.56	3/8, 1/2, 3/4, 1	11 1/2
2 -A-5	24.55	28.63	8.17	2.56	1/4, 3/8, 1/2, 3/4, 1	12 1/2
2 -A-6	28.63	32.76	8.17	2.56	1/8, 1/4, 3/8, 1/2, 3/4, 1	13 1/2
2 1/2-A-2	28.63	33.78	10.84	2.56	1/2 & 3/4, 1 & 1 1/4	12 1/2
2 1/2-A-4	38.88	43.99	10.84	2.56	1/4, 3/8, 1/2 & 3/4, 1 & 1 1/4	18
2 1/2-A-5	33.78	38.88	10.84	2.56	1/2, 3/4, 1, 1 1/4, 1 1/2	16 3/4
2 1/2-A-6	38.88	43.99	10.84	2.56	3/8, 1/2, 3/4, 1, 1 1/4, 1 1/2	18
3 -A	24.36	30.49	14.32	5.12	Any One Size	20
3 -A-2	31.00	37.24	14.32	5.12	1 1/2, 2	24
3 -A-3	37.24	43.48	14.32	5.12	1 1/4, 1 1/2, 2	29
3 -A-4	43.48	49.72	14.32	5.12	1, 1 1/4, 1 1/2, 2	32
3 -A-5	49.72	55.86	14.32	5.12	3/4, 1, 1 1/4, 1 1/2, 2	37
3 -A-6	55.96	62.10	14.32	5.12	1/2, 3/4, 1, 1 1/4, 1 1/2, 2	41
6 -A-2	102.30	....	73.66	*14.32	2 1/2, 3	80

Parts

No.	Extra Ring Guides Each	Extra Wrenches Each	Extra Collar Screws Each	Extra Guide Screws Each	Extra Adjusting Screws Each	Extra R.H. Dies Each	Extra L.H. Dies Each	Extra Adj. Pipe Guide Each
1-A	\$.62	\$.42	\$.49	\$.42	\$.42	\$3.16	\$6.32	\$5.71
2-A	.82	.49	.61	.61	.49	3.96	7.92	6.13
2 1/2-A	1.24	.49	.72	.61	.72	4.96	9.92	7.38
3-A	1.54	.61	1.03	1.03	.82	7.12	14.24	9.82
6-A	4.09	.61	1.44	1.24	1.03	16.84	33.68	....

*Four handles.

Ridgid Ratchet Pipe Threaders With Inclosed Ratchet



Rugged steel and malleable dies for small pipe. Die heads push out easily with thumbs for changing, snap in from either side cannot fall out.

Capacity, In.	No. 0-R Each	Wt., Lb.	Capacity, In.	No. 11-R Each	Wt., Lb.
1/8 to 1	\$25.50	13 1/2	1/8 to 1 1/4	\$31.95	20
1/8 to 3/4	22.00	11	1/8 to 1	28.15	17
1/4 to 1	22.00	12 1/4	1/4 to 1 1/4	28.15	18 1/2
1/4 to 3/4	18.50	10	1/4 to 1	24.35	15 3/4
3/8 to 1	18.50	11 1/4	3/8 to 1 1/4	24.35	17
3/8 to 3/4	15.00	9	3/8 to 1	20.55	14
1/2 to 1	15.00	10 1/2	1/2 to 1 1/4	20.55	15 1/2
1/2 to 3/4	11.50	8	1/2 to 1	16.75	13

Ridgid 3-Way Die Pipe Stocks



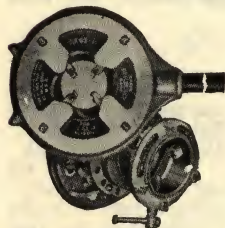
For conduit and small pipe. Convenient compact threaders, with handy reversal of chasers for close-to-wall threads, alloy chasers easily removed for regrounding.

No.	30A	31A
Each	\$9.95	11.60
Capacity	inches $\frac{3}{8}$ - $\frac{3}{4}$	$\frac{1}{2}$ -1
Weight, Packed 1 to a Box	pounds 6	10

Four Segment Chaser Dies

Size	inches $\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1
For No. 30A	per set \$2.35	\$2.35	\$2.35	
For No. 31A	per set	2.35	2.35	\$2.75

Ridgid Pipe Threaders



Threads four sizes of pipe 1 to 2 inches with one set of dies that stay in the threader.

Furnished with either cam or plate type workholder, practically automatic; set to pipe size, tighten one screw; no bushings.

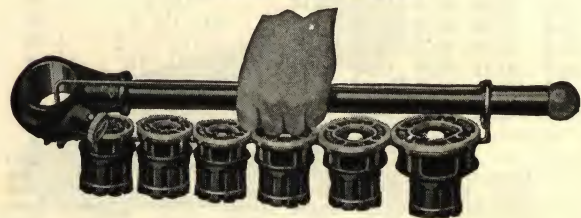
Automatically kicks out during ratchet pawl when standard length thread is cut.

Rugged all steel and malleable alloy construction, with drop-forged hardened tool steel cam plates.

No. 65-RC, Ratchet with Cam Type Workholder, Weight, 24½ Pounds	each \$30.25
No. 65-RP, Ratchet with Plate Type Workholder, Weight 22½ Pounds	each 28.15
Extra Chaser Dies, 4 in a set; Wt., 8 Oz.	per set 3.60

No. 12R Ridgid Ratchet Pipe Threaders

With Exposed Ratchet

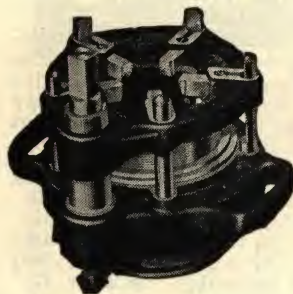


Threads $\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$, 1, 1¼, 1½, and 2-inch pipe. Can be furnished in any combination of sizes.

Size...in.	$\frac{1}{8}$ -2	$\frac{1}{8}$ -1¼	$\frac{1}{4}$ -2	$\frac{1}{4}$ -1¼	$\frac{3}{8}$ -1¼	$\frac{1}{2}$ -1¼	$\frac{1}{2}$ -2
No. 12R							
each	\$48.35	36.20	43.95	31.80	27.40	22.95	35.10
Wt..Lb.	55	41½	51	37½	33	28¼	42

No. 4-P Ridgid Pipe Threaders

For 2½ to 4-Inch Pipe



An all steel and malleable pipe threader which gives clean, positive threading. Also cuts drip threads and short nipples—is semi-adjustable for over and under size threads.

Furnished with four sets of 5 high speed steel chaser dies for 2½, 3, 3½, and 4-inch pipe.

Operates on hand or power unit. Ratchet handle for hand threading furnished with each die stock.

Weight, 95 pounds.

No. 4-P	each \$85.00
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Toledo Adjustable Bolt Die Stocks



Dies are simultaneously moved in or out for deep, shallow, or standard threads, by turning the knurled sizing ring.

Each die segment takes a proportional share of the work which makes easier cutting, smoother threads, and longer die life. Dies can be easily reground.

Die change is easily made from one size to another.

No. 101

Capacity, ¼ to ½-Inch N.C. (U.S.S.) or N.F. (S.A.E.)
Also ¾, 1½ and ½-Inch Pump Rod Dies

Measures 17 inches including handles. Wt. 2¾ lb.

No.	Description	Wt. Lb.	Each
101	Complete with ¼, ⅝, ⅜, 7/16, 1/2, 9/16, and 5/8-Inch R-H. Dies and Box, (Spec. N.C. or N. F.)	5	\$22.30
101	Stock with 1 Set R-H. Dies and Guide	2¾	5.40
...	Stock Only	2½	3.00
...	Right-Hand Dies	1/8	2.00
...	Guides	1/16	.40
...	Red Enameled Metal Box, 7¼x4¾x1¾ In.	1¼	2.50

No. 102

Capacity, ¾ to 1-Inch N.C. (U.S.S.) or N.F. (S.A.E.)

Measures 25½ inches including handles. Wt., 5¼ lbs.

102	Complete with ¾, 7/8, and 1-Inch R-H. Dies and Box, (Specify N.C. or N.F.)	10	\$15.00
102	Stock with 1 Set R-H. Dies and Guide	5¼	7.00
...	Stock Only	5	4.50
...	Right-Hand Dies	1/4	2.00
...	Guides	1/8	.50
...	Red Enameled Metal Box, 11¼x5¾x1¾ In.	3	3.00

Toledo Adjustable Bolt Die Heads and Ratchet Handles

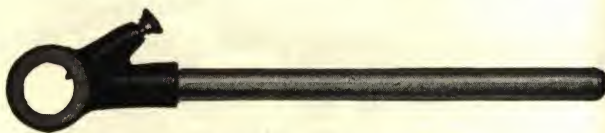
Capacity, ¼ to 1-Inch



Die



Adjustable Die Head



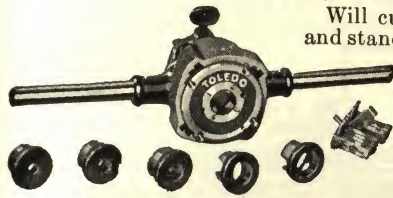
Ratchet Handle Die Stock

Standard bolt threads or an over or under adjustment of ¼ inch are obtained by loosening the four cover screws and turning the knurled ring until the dies are set to the desired size. Dies may be removed and reground.

No. 101R, ¼, ⅝, ⅜, 7/16, 1/2, 9/16 or 5/8-Inch Adj. Head with R. H., N.C. or N.F. Dies	each size \$6.00
No. 101R, ¼, ⅝, ⅜, 7/16, 1/2, 9/16 or 5/8 Inch Dies Only, R.H., N.C. or N.F.	per set per size 2.00
No. 102R, ¾, 7/8 or 1-Inch Adj. Head with R.H., N.C. or N.F. Dies	each size 6.50
No. 102R, ¾, 7/8 or 1-Inch Dies Only R.H., N.C. or N.F.	per set per size 2.00
Ratchet Handle	3.00
Metal Carrying Case, Holds Handle and 7 Heads	3.50

No. 0 Toledo Adjustable Pipe Threading Devices

Capacity, $\frac{1}{8}$ to $\frac{3}{4}$ -Inch Pipe



Will cut over or under-size and standard threads. Receding-die principle for threading $\frac{1}{2}$ and $\frac{3}{4}$ -inch pipe. Consists of a tool body, two handles, set of $\frac{1}{8}$ to $\frac{3}{4}$ -inch right-hand dies, bushings, and an instruction card. Length overall, 24 inches.

No. 0, R.H., $\frac{1}{8}$ to $\frac{3}{4}$ -Inch, Complete.....	Each	Wt., Lb.	Ship.
Right-Hand Dies, Each Size, $\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$ or $\frac{1}{2}$ x $\frac{3}{4}$ -Inch.....			
Left-hand dies are also available, prices upon request.			

No. 00 Toledo Ratchet Pipe Threaders

Capacity, $\frac{1}{8}$ to $\frac{3}{4}$ -Inch Pipe Inclusive



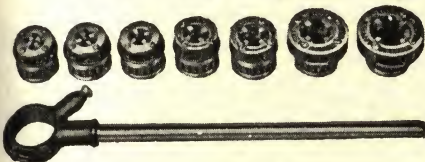
Threads pipe in corners and cuts standard threads of full taper. Die heads instantly changed. Die segments can be removed and reground.

Description	Each	Wt. Lb.
No. 00, $\frac{1}{8}$ to $\frac{3}{4}$ -Inch, Complete.....	\$19.90	9 $\frac{3}{4}$
$\frac{1}{4}$ to $\frac{3}{4}$ -Inch, Complete.....	16.60	8 $\frac{3}{4}$
$\frac{3}{8}$ to $\frac{3}{4}$ -Inch, Complete.....	13.30	7
$\frac{1}{2}$ to $\frac{3}{4}$ -Inch, Complete.....	10.00	5 $\frac{1}{2}$
Ratchet Handle Only.....	.70	3
$\frac{1}{8}$, $\frac{1}{4}$, or $\frac{3}{8}$ -Inch Die Head with R.-H. Dies...	3.30	1 $\frac{1}{4}$
$\frac{1}{2}$ or $\frac{3}{4}$ -Inch Die Head with R.-H. Dies.....	3.50	1 $\frac{1}{2}$
R. H. Dies, Each Size, $\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, or $\frac{3}{4}$ -Inch.	*1.80	2
Steel Carrying Case.....	3.50	4

*Per set.

No. 11 Toledo Ratchet Pipe Threading Devices

Capacity, $\frac{1}{8}$ to $\frac{1}{4}$ -Inch Pipe Inclusive



Consists of ratchet head and right hand die heads with dies. Die heads instantly changed by pulling

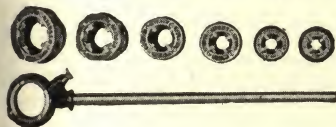
ratchet pawl knob.

Description	Each	Wt. Lb.
No. 11, Complete, $\frac{1}{8}$ to $\frac{1}{4}$ -In. Size.....	\$29.00	8
Ratchet Only.....	3.50	3 $\frac{1}{4}$
$\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$ -In. Die Head with R.-H. Dies.	3.50	1 $\frac{3}{4}$
1, $\frac{1}{4}$ -In. Die Head with R.-H. Dies.....	4.00	1 $\frac{3}{4}$
$\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, or $\frac{3}{4}$ -In. Dies Only.....	1.80	1
1 or $\frac{1}{4}$ -In. Dies Only.....	2.20	1
Steel Carrying Case.....	5.00	8

Any combination may be ordered.

No. 12 Toledo Ratchet Pipe Threading Devices

Capacity, $\frac{1}{2}$ to 2-Inch Pipe

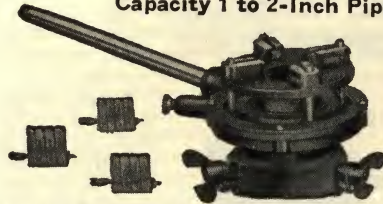


Die heads changed by pulling ratchet pawl knob. Special dies for electric conduit, brass or copper pipe. Complete tool has ratchet handle, $\frac{1}{2}$, $\frac{3}{4}$, 1, $1\frac{1}{4}$, heads may be ordered.

Description	Each	Wt. Lb.
No. 12, $\frac{1}{2}$ to 2-Inch, Complete.....	\$35.50	26
Ratchet Only.....	4.50	5 $\frac{5}{8}$
$\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, or $\frac{1}{2}$ -In. Die Head with R.-H. Dies. ea.	4.50	2 $\frac{1}{2}$
1 or $\frac{1}{4}$ -Inch Die Head with R.-H. Dies.....	5.00	3
$\frac{1}{2}$ -Inch Die Head with R.-H. Dies.....	5.50	3 $\frac{1}{2}$
2-Inch Die Head with R.-H. Dies.....	6.50	3 $\frac{1}{2}$
$\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$ or $\frac{3}{4}$ -Inch Dies.....	1.80	1 $\frac{1}{8}$
1 or $\frac{1}{4}$ -Inch Dies.....	2.20	1 $\frac{1}{8}$
$\frac{1}{2}$ -Inch Dies.....	2.80	1 $\frac{1}{8}$
2-Inch Dies.....	3.60	1 $\frac{1}{8}$

No. 1BR Toledo Adjustable Pipe Threading Devices

Capacity 1 to 2-Inch Pipe Inclusive



For brass, copper, iron, or steel pipe. Adjustable rear guide; no bushings required. Separate set of dies for each size pipe; 2-inch dies are high speed steel. Pipe holder will take 2-inch coupling to permit cutting short nipples.

Set includes complete set 1 to 2-inch right-hand dies.

No.	Each	Wt., Lb.	Ship.
No. 1BR, Right-Hand Ratchet, Comp.....	each	\$24.00	23
1, $\frac{1}{4}$, or $\frac{1}{2}$ -Inch Right-Hand Dies.....	per set	2.00	1
2-Inch Right-Hand Dies.....	per set	2.50	1

Toledo Simpac Adjustable Ratchet Pipe Threading Devices

Self Contained—Capacity, 1 to 2-Inch Pipe

A direct action threading device in which the dies bear against tapered steps.

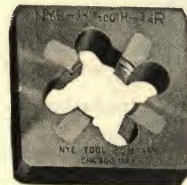


Pockets in head collect the oil and continually drip it on the dies when cutting. **High speed** steel dies can be reground. The three-jaw pipe holder is designed for easy handling and accurate centering. Complete tool consists of the tool body of black crackle finish, one set of 1 to 2-inch high speed steel dies and the 24-inch tubular handle.

Each, Shipping Weight 24 Pounds.....	\$26.00
Dies, R. H. Complete Set, 1 to 2-Inch.....	per set 3.00

Nye Solid Pipe Dies

Skip Tooth with Threaded Throat



The Nye feature of removing every alternate tooth in the back of the die to reduce friction, and of relieving or backing off each segment, is used in the Nye Solid Die. Hardened and tempered in oil.

No.	Each	Dimensions, In.	Size Inches	Approx. Ship. Wt. Lb.
ND-1	\$3.00	2 $\frac{1}{2}$ x 2 $\frac{1}{2}$ x $\frac{3}{4}$	$\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$, 1.....	1
ND-2	5.00	4 x 4 x $\frac{7}{8}$	$\frac{1}{2}$, $\frac{3}{4}$, 1, $1\frac{1}{4}$, $1\frac{1}{2}$, 2.....	2 $\frac{1}{2}$

Nye Solid Conduit Dies



Square

Skip-tooth dies made especially for threading conduit pipe.

Produces the proper thread adopted and standardized by the Conduit Manufacturers Association.



Round

No. ND-1C Square Dies

Die block, 2 $\frac{1}{2}$ x 2 $\frac{1}{2}$ x $\frac{3}{4}$ inches. $\frac{1}{2}$, $\frac{3}{4}$ and 1-Inch Size.....each \$3.00

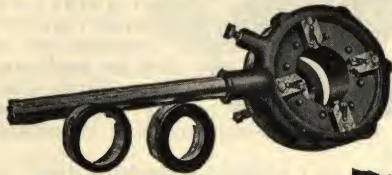
No. ND-TC Round Dies

For Triad stocks. $\frac{1}{8}$, $\frac{1}{4}$ and $\frac{3}{8}$ -Inch Size.....each \$2.45
 $\frac{1}{2}$ and $\frac{3}{4}$ -Inch Size.....each 2.85
 1 and $1\frac{1}{4}$ -Inch Size.....each 3.00

No. 1½R Toledo Adjustable Ratchet Threading Devices

Capacity, 2½ and 3-Inch Pipe
Capacity, 2 to 3 Inch Tubing

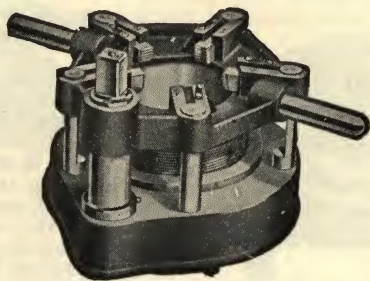
Complete outfit consists of the tool body, a two-piece handle, dies for each size within its capacity, necessary bushings, and set-screw wrench. Packed in wooden box.



When ordering, state whether the standard pipe thread tool or the special oil well tubing tool is desired.

No. 1½R, Complete.....	each	\$48.00	52.00
Dies per Set of 4 Segments, Wt. 1 Pound....		4.40	4.40
No. Threads to the Inch.....		8	11½
Shipping Weight, Complete.....	pounds	45	47

Toledo Geared Adjustable Pipe Threading Devices



Easy operating large threader. Operated either by ratchet handle or instantly converted into power machine with a Toledo power drive.

Furnished with complete set of dies, bushings, set-screw wrench, and ratchet handle.

No. 2—Capacity, 2½ to 4-Inch Pipe Inclusive

Weight, 95 pounds.

No. 2, Right-Hand Threads.....	each	\$80.00
Dies, Each Size, 2½, 3, 3½ or 4-Inches.....	per set	5.50

No. 2BR—Capacity, 2½ to 4-Inch Pipe Inclusive

For brass or copper, as well as iron or steel pipe.

Fitted with three broad-faced chuck jaws and micrometer line guide bars. No bushings are required.

Weight, 95 pounds.

No. 2BR, Right-Hand Threads.....	each	\$86.00
Dies, Each Size, 2½, 3, 3½ or 4 Inches.....	per set	5.50

No. 25BR—Capacity, 2½ to 6-Inch Pipe Inclusive

For brass or copper, as well as iron or steel pipe.

Fitted with four broad-faced chuck jaws and micrometer line guide bars. No bushings are required.

Easy positive die change. Extra set of dies furnished.

Weight, 175 pounds.

No. 25BR, Right-Hand Threads.....	each	\$170.00
Dies, Each Size.....	per set	5.50

No. 2½—Capacity, 5 and 6-Inch Pipe

Weight, 172 pounds.

No. 2½, Right-Hand Threads.....	each	\$126.00
Dies, Each Size, 5 or 6 Inches.....	per set	9.00

No. 3—Capacity, 5, 6 and 8-Inch Pipe

Weight, 198 pounds

No. 3, Right-Hand Threads.....	each	\$170.00
Dies, Each Size, 5, 6 or 8-Inches.....	per set	9.00

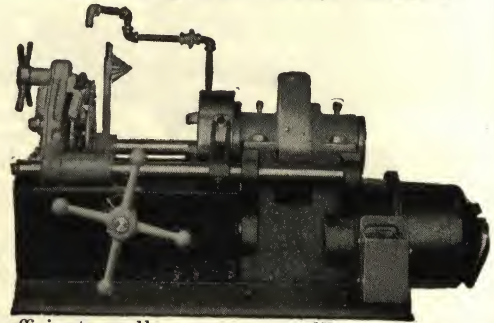
No. 4—Capacity, 10 and 12-Inch Pipe

Weight, 373 pounds.

No. 4, Right-Hand Threads.....	each	\$290.00
Dies, Each Size, 10 or 12-Inches.....	per set	13.00

No. 999 Toledo Power Pipe Machines

Motor {115/230 Volt Universal or
220/440 Volt-3 Phase-60 Cycle
Capacity ½ to 2-Inch Pipe Inclusive



An efficient, small, compact, portable power pipe machine. The ½-hp. ball-bearing universal motor operates from any 110-volt lamp socket. Sturdy drum-type switch. Other motors on request.

Can be furnished as listed below, complete with ½ to 2-inch right-hand dies, bushings, complete set of four cutter blades, chuck wrench, cutter blade wrench, 10 feet of cable with connectors and 1 gallon of thread cutting oil.

CUTTING AND THREADING SPEEDS—2-inch pipe is cut off in 10 seconds; 2-inch pipe is threaded in 22 seconds with the Super Model, and in 30 seconds with the Standard Model.

Either machine can be furnished with ⅛, ¼ or ⅜-inch sizes if desired.

Super Model

With Quick-Opening Die Heads and Dies

Description	Each	Ship. Wt. Lb.
No. 999, Complete with 6 Q-O. Die Heads and ½ to 2-Inch R-H. Pipe Dies (6 Sets).....	\$600.00	473
No. 999, Complete with 3 Q-O. Die Heads and ½ to 2-Inch R-H. Pipe Dies (6 Sets).....	528.00	432
No. 999, Complete with 9 Q-O. Die Heads and ½ to 2-Inch R-H. Pipe Dies (9 Sets).....	690.00	493
⅛ to ¾-Inch Q-O. Die Head Only, No Dies..	24.00	6
1 or 1¼-Inch Q-O. Die Head Only, No Dies..	24.00	6
1½ or 2-Inch Q-O. Die Head Only, No Dies..	24.00	6
⅛, ¼, ⅜, ½ or ¾-Inch R-H. Pipe Dies.....	5.00	½
1, 1¼, 1½ or 2-Inch R-H. Pipe Dies.....	6.00	¾
⅛, ¼, ⅜, ½, ¾, 1, 1¼ and 1½-In. Bushings.....	1.00	11½
*Cutter Blades.....	1.40	⅛
Cutter Blades.....	5.60	½

Standard Model

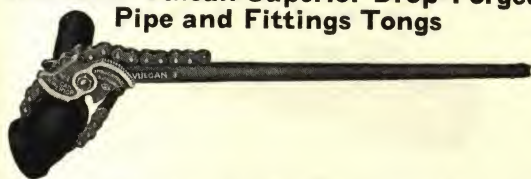
With Non-Opening Die Heads and Dies

No. 999, Complete with 6 Non-Opening Die Heads and ½ to 2-Inch R-H. Pipe Dies (6 Sets).....	\$478.00	434
No. 999, Complete with 9 Non-Opening Die Heads and ½ to 2-Inch R-H. Pipe Dies (9 Sets).....	505.00	440
½-Inch Non-Opening Die Head Only, No Dies	4.00	2
¾-Inch Non-Opening Die Head Only, No Dies	4.00	2
1-Inch Non-Opening Die Head Only, No Dies..	5.00	3½
1¼-Inch Non-Opening Die Head Only, No Dies.....	5.00	3½
1½-Inch Non-Opening Die Head Only, No Dies.....	5.00	3½
2-Inch Non-Opening Die Head Only, No Dies..	5.00	3½
⅛-Inch Non-Opening Die Head Only, No Dies	4.00	2
¼-Inch Non-Opening Die Head Only, No Dies	4.00	2
⅜-Inch Non-Opening Die Head Only, No Dies	4.00	2
⅛, ¼, ⅜, ½, or ¾-Inch R-H. Carbon Steel Pipe Dies Only.....	4.00	⅛
1 or 1¼-Inch R-H. High Speed Steel Pipe Dies Only.....	5.00	¼
1½ or 2-Inch R-H. High Speed Steel Pipe Dies Only.....	5.00	¼
⅛, ¼, ⅜, ½, ¾, 1, 1¼ and 1½-In. Bushings.....	1.00	11½
*Cutter Blades.....	1.40	⅛
Cutter Blades.....	5.60	½

*When ordering single cutter blades, always specify whether (A) outside skew or (B) inside skew is required.

Dies for bolt, electric conduit, and left-hand pipe threads can also be supplied.

Williams' Vulcan Superior Drop-Forged Pipe and Fittings Tongs



Reversible pipe and fittings-jaws. Takes flat or cable chain. V recess in jaws gives positive grip on fittings. Standard finish jaws have bright face, orange panels. Standard chains supplied regularly.

No.	Standard		Extra		Capacity Pipe Inches	Lgth. In.	Wt. Lb.
	Complete Each	Chain Each	*Extra Jaws per Pair	Bolts & Nuts per Set			
†0	\$8.71	\$1.96	\$3.49	\$4.48	1/8-3/4	13 3/4	2
1	12.20	2.62	6.09	.63	1/8-1 1/2	20	5 1/2
2	17.42	3.92	9.58	.80	1/4-2 1/2	27	10
3	24.40	6.53	13.94	1.05	3/4-4	37	17
3 1/2	31.36	9.15	16.56	1.21	1-6	44 1/2	26
4	38.34	11.76	19.16	1.57	1 1/2-8	50 1/2	34
5	62.72	19.60	26.14	2.28	2-12	64 1/2	54

*If only a single jaw is wanted, specify right or left.
†Flat chain only.

Williams' Vulcan Drop-Forged Chain Pipe Tongs



With Flat Link Chain

For turning or holding 1/8 to 18-inch pipe. Drop-forged from wrought steel.

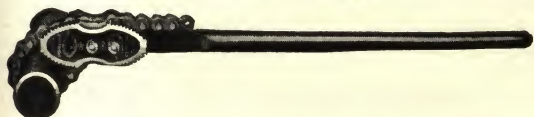
Fitted with extra size through bolt and U. S. Std. nut fastening for jaws.

Furnished with cable or flat link chain, **specify when ordering.**

No.	Standard		Extra		Capacity Pipe Inches	Length Inches	Weight Pounds
	Complete Each	Chain Each	*Extra Jaws per Pair	Bolts & Nuts per Set			
10	*\$8.17	*\$1.96	\$3.27	\$4.46	1/8-3/4	13 3/4	2
11	11.44	2.62	5.71	.58	1/8-1 1/2	20	5 3/4
12	16.34	3.92	8.98	.75	1/4-2 1/2	27	10
13	22.87	6.53	13.07	.99	3/4-4	37	17
13 1/2	29.40	9.15	15.51	1.13	1-6	44 1/2	24
14	35.94	11.76	17.99	1.47	1 1/2-8	50 1/2	31
15	58.80	19.60	24.52	2.13	2-12	64 1/2	52
16	130.68	52.27	52.27	4.09	4-18	87	137

*Flat chain only.

Williams' Improved Vulcan Drop Forged Chain Pipe Tongs



Drop forged from wrought steel. Fitted with extra size through bolt and U.S. Std. nut fastening for jaws. Double ended reversible jaws may be quickly changed, end for end, as teeth first in use wear.

With standard flat chain.

No.	Standard		Extra		Capacity Pipe Inches	Lgth. In.	Wt. Lb.
	Comp. Each	Chain Each	Extra Jaws per Pair	Bolts & Nuts per Set			
30	\$8.17	\$1.96	\$3.27	\$6.55	1/8-3/4	13 3/4	2
31	11.44	2.62	5.71	.83	1/8-1 1/2	20	5 3/4
32	16.34	3.92	8.98	1.13	1/4-2 1/2	27	10
33	22.87	6.53	13.07	1.47	3/4-4	37	17
33 1/2	29.40	9.15	15.51	1.79	1-6	44 1/2	24
34	35.94	11.76	17.99	2.30	1 1/2-8	50 1/2	31
35	58.81	19.60	24.52	2.95	2-12	64 1/2	52
*16	130.68	52.27	52.27	4.09	4-18	87	137

*Supplied only in non-reversible jaw pattern.

Ridgid Straight Pattern Pipe Wrenches



Powerful all-alloy housing and handle; housing guaranteed not to break or warp. Chrome molybdenum jaws will not slip or lock on pipe. Replacement heel jaw, full-floating hook jaw with handy pipe scale. Adjusting nut spins easily in open housing in all sizes.

Packed 6 in a box, 6 to 24-inch inclusive.

Size In.	Each	Cap. In.	Wt. Lb.	Size In.	Each	Cap. In.	Wt. Lb.
6	\$1.90	3/4	1 1/2	18	\$5.50	2 1/2	5 1/4
8	2.20	1	2 1/4	24	9.50	3	8 3/4
10	2.85	1 1/2	3 1/4	36	20.00	4 1/2	18 1/2
12	3.35	2	4 1/4	48	30.00	6	33 1/2
14	3.85	2	5 1/2	60	45.00	8	51 1/2

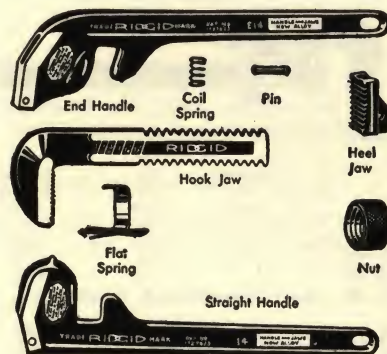
Ridgid End Pattern Pipe Wrenches



For work where pipe is close to wall or in tight places. Powerful all-alloy handle and housing; housing guaranteed not to break or warp. Chrome molybdenum jaws will not slip or lock on pipe. Replaceable heel jaw, full-floating hook jaw with handy pipe scale. Adjusting nut spins easily in all sizes. Packed 6 in a box, 6 to 24-inch inclusive.

Size.....in.	E6	E8	E10	E12	E14	E18	E24	E36
Each.....	\$1.90	2.20	2.85	3.35	3.85	5.50	9.50	20.00
Cap.....in.	3/4	1	1 1/2	2	2	2 1/2	3	4 1/2
Wt.....lb.	1 1/2	2 1/4	3 1/4	4 1/4	5 1/2	8 3/4	18 1/2	

Parts for Ridgid Pipe Wrenches



Size In.	Handle Assembly		Hook Jaw Each	Heel Jaw & Pin Each	Pin Each	Coil Spring Each	Flat Spring Each	Nut Each
	Straight Each	End Each						
6	\$1.75	\$1.75	\$.65	\$.40	\$.03	\$.03	\$.20	\$.15
8	1.95	1.95	.70	.45	.03	.03	.20	.15
10	2.50	2.50	1.10	.55	.04	.03	.20	.20
12	2.85	2.85	1.25	.65	.04	.03	.25	.25
14	3.45	3.45	1.50	.65	.04	.03	.30	.30
18	4.95	4.95	2.15	.75	.04	.04	.40	.35
24	7.95	7.95	3.50	.85	.04	.04	.50	.55
36	15.00	15.00	5.70	1.15	.05	.04	.60	1.10
48	25.00	.....	9.00	2.05	.05	.04	.80	2.00
60	35.00	.....	17.00	4.55	.05	.04	1.50	4.00

Ridgid Compound Leverage Pipe Wrenches



For use in turning pipe or fittings that are frozen and require additional leverage. Operated by putting trunnion on pipe, jaw on fittings (or vice versa), and pumping it on or off.

Made of Super-X alloy metal.

Multiplies leverage 14 times.

Short handle and short turning movement permits use of this wrench in close quarters too tight for ordinary wrenches—on concealed piping, close under floors, against walls or in narrow trenches.

No.....	S-2	S-4	S-6	S-8
Complete Wrench.....each	\$8.65	17.20	22.45	33.60
Capacity Pipe.....inches	2	4 1/2	6	8
Weight.....pounds	6	28 1/2	40 1/2	58 1/2

Parts

No.....	S-2	S-4	S-6	S-8
Trunnion Assembly.....each	\$5.75	\$11.35	\$12.90	\$19.40
Trunnion.....each	1.55	3.00	4.05	6.00
Vise Handle.....each	.55	.66	.66	.78
Nut for Screw.....each	.75	1.15	1.15	1.55
Chain and Screw.....each	3.15	6.60	7.50	9.05
Handle.....each	1.50	3.00	5.25	5.25
Head.....each	1.00	2.00	3.50	5.25
Rivet.....each	.05	.10	.10	.10
Side Bar.....each	.15	.45	.95	.95

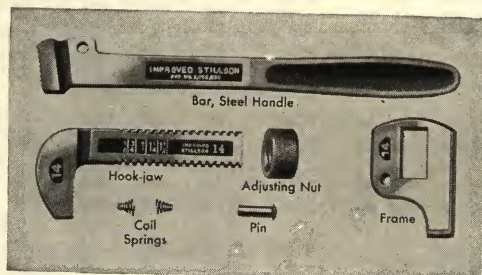
Ridgid Improved Stillson Pattern Pipe Wrenches



Steel handle.

Size In.	Each	Capacity in Inches	No. in Box	Approx. Wt., Lb. Each	Approx. Wt., Lb. per Box
6	\$1.90	1 1/2	6	5 1/16	2
8	2.20	3 1/4	6	5 5/8	4
10	2.85	1	6	13 3/8	8 1/2
14	3.85	1 1/2	6	23 3/4	17
18	5.50	2	6	4 1/4	26 1/2
24	9.50	2 1/2	6	7 5/8	46 1/2
36	20.00	3 1/2	1	15	....
48	30.00	5	1	24 1/4	....

Parts



Trimo-Alloy Pipe Wrenches Heavy Duty—Drop Forged



Made of heat-treated alloy steel. All sizes are furnished with steel handle only.

Length Open Inches	Each	Takes Pipe Inches	Wt. Lb. Each	Length Open Inches	Each	Takes Pipe Inches	Wt. Lb. Each
*6	\$1.90	1/8 to 1/2	3/16	18	\$5.50	1 1/4 to 2	5
*8	2.20	1/8 to 3/4	3/4	24	9.50	1 1/4 to 2 1/2	8 1/2
10	2.85	1/8 to 1	1 1/2	36	20.00	1 1/2 to 3 1/2	16 1/4
14	3.85	1/4 to 1 1/2	3	48	30.00	1 to 5	24

*Not equipped with nut guards.

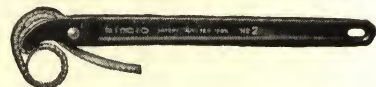
Extra Parts



For Wrench In.	Mov-able Jaw Each	Insert Nuts Each	Jaws and Pins Each	Frames and Pins Each	Springs and Pins Each	Extra Frame Pins Each	Extra Jaw Pins Each	Steel Handles Each	Nut Guards per Pr.
6	\$.65	\$.15	\$.50	\$.45	*\$.03	\$.03	\$.03	\$1.00	....
8	.70	.15	.55	.55	*.03	.03	.03	1.15	....
10	1.10	.20	.65	.70	.03	.04	.04	1.60	\$.20
14	1.50	.30	.85	.80	.03	.04	.04	2.20	.30
18	2.15	.35	.95	.95	.04	.04	.04	3.25	.35
24	3.50	.55	1.10	1.75	.04	.04	.04	5.15	.45
36	5.70	1.10	1.50	2.75	.04	.05	.05	10.50	.55
48	9.00	2.00	2.00	3.50	.04	.05	.05	17.00	.65

*Furnished with springs but without spring pin.

Ridgid Strap Wrenches



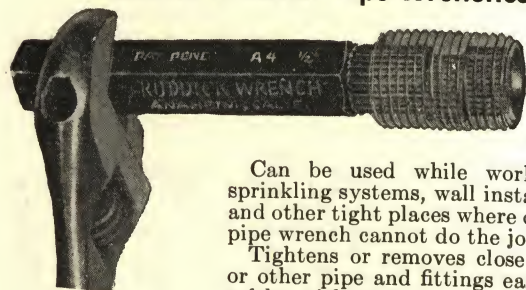
For use on polished pipe and tubing. Made with strong I-beam handle and solid head, all in one piece. Handy hang-up hole.

Easy to attach and use; protects finish of nickel or chrome pipe or tubing.

Has special webbing strap of unusual strength, which can be easily taken off for replacement by pushing out pin held by spring clips.

No.....	2	5
Wrench.....each	\$2.15	\$4.30
Strap Only.....each	.65	1.60
Capacity.....inches	1/8 to 2	1 to 5
Weight.....pounds	1 3/4	4 1/2

Roddick Internal Pipe Wrenches



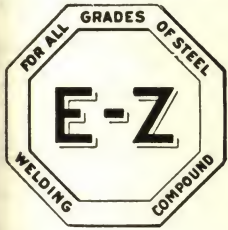
Can be used while working on sprinkling systems, wall installations and other tight places where ordinary pipe wrench cannot do the job.

Tightens or removes close nipples or other pipe and fittings easily and safely, without damage to threads or pipe walls.

Made of heat-treated alloy steel.

Size.....in.	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Each.....	\$1.98	1.98	1.98	1.98	2.15	2.75	4.00	4.50	5.00
Set of 4 in Kit	3/8,	1/2,	3/4,	and 1	Inch.....	per set	\$8.86		

E-Z Welding Compound



Sticks to the metal at a low heat and is equally good for lap, split, V, butt or jump welding.

This compound will weld tool, plow, open-hearth, Bessemer or spring steel, making a strong and smooth weld, at a lower heat than any other compound.

Used between laps of welds.

1-Pound Boxes.....	per pound	\$.31
5 and 10-Pound Boxes.....	per pound	.23
25 and 50-Pound Boxes.....	per pound	.22
100-Pound Drums.....	per pound	.21 1/2
300-Pound Half Barrels.....	per pound	.20
600-Pound Barrels.....	per pound	.19 1/2

Anti-Borax Oxy-Acetylene Welding and Brazing Fluxes



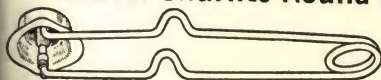
Welding fluxes prevent oxidation, eliminate blow holes, etc. Brazing fluxes cause spelter to penetrate deeper into joint.



No.	Description	1-Lb. Can Per Lb.	5-Lb. Can Per Lb.
1	Cast Iron Welding Flux.....		\$.55
2	Brazing Flux, for Brass, Bronze, Steel, Malleable Iron, Etc.....	.60	.55
3	Brass or Bronze Welding Flux.....	.60	.55
7	Steel Welding Flux.....	.50	.45
9	Stainless Steel Flux for Steel Containing Chromium, Copper or Nickel.....	2.00	
No.	Description	1/4-Lb. Can Each	1-Lb. Can Each
5	Extra Quality Cast Aluminum Welding Flux.....	\$.70	\$1.30
4	Braz-Cast Flux for Bronze Welding Cast Iron.....	.80	1.40
*8	"A.B.C." Sheet and Wrought Aluminum Welding Flux.....	.70	1.30
†16	Silver Solder Paste Flux.....	.85	1.60

*No. 8 is furnished in bottles instead of in cans.
†No. 16 is furnished in jars instead of in cans.

No. 2001 Shurlite Round File Lighters



For igniting acetylene, natural and artificial gas, and other vapor burning fuels. For dependable torch lighting and long service under heavy usage.

Made of hard steel wire which will retain tension throughout life of lighter. Round file may be turned to provide a new surface for flint. Hood protects file and forms a pocket for gas. Flint tip can produce 1500 ignitions before replacement is necessary. Equipped with 6/40 threads for easy replacement. Flint is quality ferrocerium.

Overall length, 8 inches.
Packed 1 dozen to a box.

Ship. wt., 2 1/4 pounds per dozen; 23 pounds per gross.
No. 2001.....each \$.30

Renewals
No. 2001X, Standard Renewals. Each renewal is capable of producing 1500 ignitions.

No. 2501X, Heavy Duty Renewals. Each renewal is capable of producing 2000 ignitions.

Packed 24 metal boxes of 6 each in 1 gross package. Also packed in bulk 1 gross and 100 to container.

Approximate shipping weight, 12 ounces per gross.
No. 2001X, Std., Two for 15 Cents.....per dozen \$.80
No. 2501X, Heavy Duty; 10 Cents Each....per dozen 1.00

Welding Rods and Wire Electric and Acetylene



Welding Wire for Steel

For welding steel tanks, boilers, steel barrels, pipe lines. Furnished in diameters 1/16, 3/32, 1/8, 3/16, 1/4 and 5/16-inch. Made in 36-inch lengths.

Open Hearth Mild Steel Rods

For use on heavy steel castings where great tensile strength is desired; 1/4 and 3/8-inch sizes—36-inch lengths.

Open Hearth High Carbon Steel Rods

For use in building up cupped rails, welding car wheel flanges and work of any kind where it is necessary to secure a highly abrasive surface, combined with high tensile strength.

Made in 3/8 and 1/4-inch sizes—36-inch lengths.

Nickel Steel Rods

For welding automobile, tractor and locomotive parts, cold rolled shafting, nickel or chrome steel.

In 3/8 and 1/4-inch sizes and 36-inch lengths.

Vanadium Steel Rods

For welding vanadium alloys, tool steel or parts made from these products, such as crank shafts, connecting rods, or any part subject to hard wear and strain.

Made in 3/8 and 1/4-inch sizes—36-inch lengths.

Special Copper Wire

For welding rolled or cast copper.

Made in 1/8, 3/16 and 1/4-inch sizes—36-inch lengths.

Cold Drawn Brass Rods

For welding sheet brass, brass castings, etc.

Made in 1/8, 3/16 and 1/4-inch sizes—36-inch lengths.

Cold Drawn Tobin Bronze

For welding bronze, brass and malleable iron.

In 1/8, 3/16 and 1/4-inch sizes—36-inch lengths.

Drawn Aluminum Rods

For sheet aluminum.

Made in 1/8 and 1/4-inch sizes—36-inch lengths.

Cast Aluminum Rods

For aluminum castings.

Made in 1/4 and 5/16-inch sizes—14-inch lengths.

Cast Iron Rods

For welding cast iron.

Made in 1/8, 3/16, 1/4, 5/16, 3/8 and 1/2-inch sizes and 24-inch lengths.

Electric Welding Wire for Steel

For welding boilers, steel barrels, tanks, flues, pipe lines or any class of welding in thin sheets.

Made in 3/32, 1/8, 3/16 and 1/4-inch sizes—14-inch lengths.

Gas and electric welding rods for any purpose can be furnished upon short notice.

Prices upon application.

No. 527W Cesco Welders' Goggles



Ideal for all types of acetylene welding. Moulded bakelite cups with special air channels provide added circulation. Exclusive patented feature of baffled vents excludes all foreign particles and outside light.

Has large 50-millimeter lenses.

No. 527W, with Smoke Green Lenses.....per pair **\$2.10**
No. 527W, with Cescoweld Lenses.....per pair **2.45**

No. 537-W Cesco Welders Cover Goggles



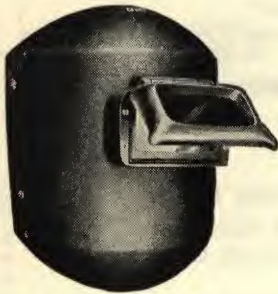
May be worn directly over correction glasses to save prescription lenses from breaking or pitting, when welding.

Cups are anatomically shaped and moulded of bakelite.

Added ventilation provided by air channels and baffled vents beneath the lenses, preventing fogging and improving wearing comfort.
Has large 50 mm. lenses.

No. 537-W, with Cescoweld Lenses.....per pair **\$2.65**
No. 537-W, with Smoke Green Lenses.....per pair **2.50**

No. 401-2 Cesco Welders' Helmets



Seamless; tilting front; shaped for full facial protection with both top and bottom curving inward to cover head and neck against light exposure.

Headgear adjustable to size, may be raised for inspection of work. Removable leather sweatband adds to wearing comfort, tends to distribute weight evenly on head. Quick change lens holder permits easy removal of welding lens or cover glass.

Lenses are standard size, 2x4 1/8 inches.

No. 401-2, with Bakelite Lift Front Lens Holder..ea.**\$10.25**

No. 411 Cesco Welders Helmets



Made of vulcanized fibre. Has exceptional strength and wearing qualities. All metal parts are finished dull black to avoid light reflections.

Has self-adjusting, sliding lock arrangement which enables the helmet to be worn in either the up or down position. Quick change feature permits instant removal of welding lens or cover glass.

Head harness permits easy adjustment to varying head sizes. Lenses are standard size, 2x4 1/8 inches.

No. 411, with Cescoweld Plate and Cover Glass.each **\$8.25**

Cescoweld Welding Glass

Protects the eyes on all welding operations, eliminating harmful infra-red and ultra-violet rays.

The general uses for which each shade of Cescoweld Glass has been designed are as follows:

Shade No. 3: Reflected sunlight from snow, sand, water, and other outdoor objects.

Shade No. 4: Pouring and furnace work.

Shade No. 5: Light acetylene cutting and welding; light electric spot welding.

Shade No. 6: Acetylene cutting and medium acetylene welding; arc welding up to 30 amperes.

Shade No. 8: Heavy acetylene welding; arc cutting and welding between 30 and 75 amperes.

Shade No. 10: Arc cutting and welding 75-200 amps.

Shade No. 12: Arc cutting and welding 200-400 amps.

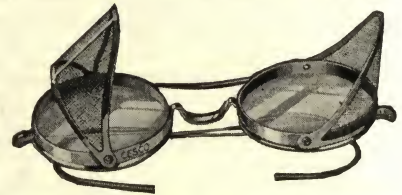
Shade No. 14: Arc cutting and welding 400 amps. and over.

Cescoweld Plates, Standard Size, 2x4 1/8".....each **\$.90**

Clear Cover Lenses, Standard Size, 2x4 1/8".....each **.07**

Cescoweld Lenses, 50 Mm.....per pair **1.10**

No. 166 Kraftguard Goggles



A grinder's and chipper's goggle that has always been popular with industrial workers because of its all-around utility and serviceability. Made of non-corrosive, all-white metal with reinforcing bar. Reinforced wire screen side shields provide maximum protection and ventilation.

Lenses are standard size, 45.8 mm.

No. 166, with Clear Industrial Lenses.....per pair **\$1.63**

No. 166, with Cesco Hardened Lenses.....per pair **2.12**

No. 527-C Cesco Chippers' Goggles



Improved cup-type. Brown bakelite cups with light weight uniformly distributed over broad bearing surfaces. Close, contoured fit prevents entry of foreign particles.

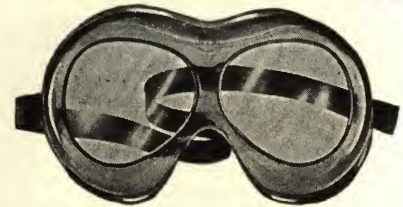
Adjustable headbands, patented ball-chain bridge adjustment for comfort. Ventilated, screw-type rings retain 50-mm. replaceable Super-Safety lenses.

No. 527-C.....per pair **\$2.10**

No. 527-D, Dust Model. Same as No. 527-C but has shielded ventilation ports to prevent entry of dust and splashing liquids.

No. 527-D, Dust Model.....per pair **\$2.10**

Cesco Coverlite Chippers' Goggles



No. 556

Provides protection from impact, dust, splashing liquids, flying sparks and chips. Worn over all prescription glasses. Ample air space and ventilation prevent fogging. Frames are one-piece injection molded plastic. Colors are transparent green or clear.

Lenses are Cesco hardened glass.

No. 556, Green Frame.....per pr. **\$1.80**

No. 562, Clear Frame.....per pr. **1.80**

No. 537-C Cesco Cover Goggles



Especially designed to be worn directly over prescription glasses by men who are engaged in hazardous operations. Cups are moulded of bakelite and provide maximum ventilation to improve wearing comfort and prevent fogging. Has Cesco large 50 mm. hardened lenses.

No. 537-C.....per pair \$2.50

No. 220 Cesco Wide Vision Goggles



An all-purpose industrial goggle offering an exceptional wide range of vision and perfect comfort to the wearer. Lenses are interchangeable and headbands adjustable.

No. 220 with Cesco Hardened Lenses.....per pair \$1.80
No. 220 with Light Weight Clear Lenses. .per pair .90

No. 101 Rubber Chemists' Goggles



A goggle intended for protection against chemical fumes and splashing solutions. Used by chemists and those working with powder, paints and acids. The frame is made of moulded live rubber which insures positive face fitting.

No. 101, with Clear Lenses.....per pair \$1.16
No. 101, with Non-Shattering Lenses.....per pair 1.68

No. 72 Cesco Dust Respirators

Sponge Type

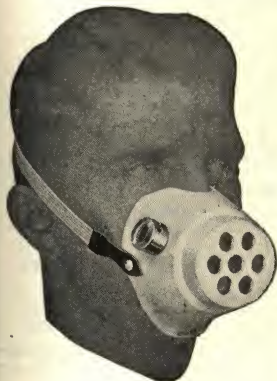
Made of white rubber and adaptable to many jobs where nuisance dust necessitates protection to the nose, mouth, throat, and lungs.

Body of respirator is large and allows ample breathing space.

All exhaled air passes through a relief valve located at top of mask.

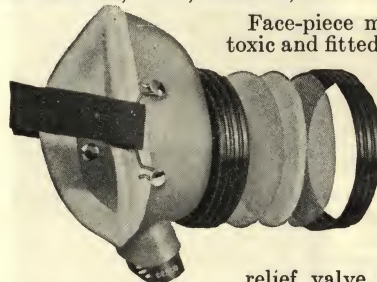
Adjustable headband holds respirator comfortably to the face.

No. 72.....each \$1.48



Series 80 Cesco Dust Respirators

Affords protection against common nuisance dusts such as charcoal, wood, cellulose, flour and aluminum.



Face-piece molded of rubber, non-toxic and fitted with replaceable, soft-knitted cloth face-let which insulates rubber cushion on face. Large filter pads protected by wire screen discs and are easily changed by means of threaded screw-cap.

Diaphragm type relief valve is positive in action, completely enclosed and protected by metal housing. Adjustable elastic headbands; all parts replaceable.

No. 80, Furnished with Wool Felt Filter Pads and Equipped with Diaphragm Type Exhale Valve each \$2.01

No. 82, Similar to No. 80 but an Inhale Check Valve Prevents the Rebreathing of Exhaled Air. Furnished with Cesco Silica Filters.....each 2.22

No. 83, Similar to No. 80 but without Exhale Valve. Exhaled Air is Expelled Directly Through Filter. each 1.69

No. 94 Cesco Healthguard Respirators

Approved by U.S. Bureau of Mines for protection against all dusts, including toxic and poisonous dust.



Double filtering elements are placed on each side of facepiece and provide over 40 square inches of filtering area for unhampered, effortless breathing. Metal canisters protect the low-cost throw-away type replaceable filters. Merely sliding the lid off filter body exposes the used filters ready for instant changing.

Speaking diaphragm permits normal conversation. Fully adjustable for a comfortable fit on all faces.

No. 94.....each \$3.00
Extra Filter Pads, per Box of 40.....each .74

No. 95 Cesco Fume Respirators

Cartridge Type

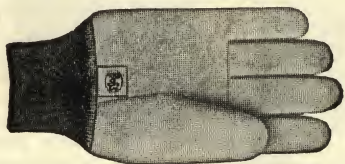
For protection against light concentrations of injurious or obnoxious gases and vapors. Not for atmosphere deficient in oxygen. Extra large chemical cartridge filter unit contains approximately 100 cc. of absorbent. Soft anatomically shaped rubber face cushion affords an airtight facial seal with slight headband tension. Adjustable, fits all types of faces. Positive acting inhale check valve automatically expels and prevents rebreathing of exhaled air. Metal parts treated with permanent corrosion-proof finish. Cartridges for most industrial fumes are available; specify purpose for which respirator will be used. Individually packed.



No. 95, Wt. with Cartridge, 1 Lb.....each \$4.50

Boss Men's White Canton Flannel Gloves

Gunn Pattern—Nap In—Red Knit Wrist
No. 137, Fulbac—No. 157, Bigun



Men's size. Tightly woven canton flannel, well-napped inside for long wear and comfort. Snug-fitting double-knit red wrist.

No. 137, Fulbac. Weight of material, 10 ounces.

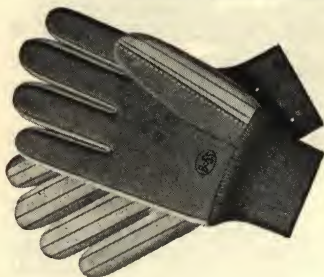
No. 137; Ship. Wt. per 10 Doz., 24 Lb.....per doz. pr.

No. 157, Bigun. Weight of material, 12 ounces.

No. 157; Ship. Wt. per 10 Doz., 27 Lb.....per doz. pr.

No. 18 Boss Showdown Men's Leather Palm Gloves

Clute Pattern—Blue Knit Wrist



Men's sizes. Split leather palm with fleeced lining and yellow striped canton flannel back. All exposed seams double-stitched for long wear.

Semi-round thumb.

Packed 10 dozen in shipping container weighing 36 pounds.

No. 18.....per dozen pairs

No. 602 Boss Men's Engineers' Special White Canton Flannel Gloves

Gauntlet Type—Clute Pattern—Nap In

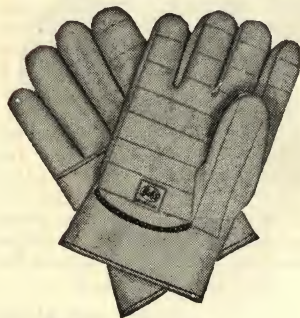


All-purpose 10-ounce glove with 5-inch, wide throat gauntlet. Men's size. Packed 10 dozen in shipping container weighing 38 pounds.

No. 602.....per dozen pairs

No. 4817 Boss Men's Millmaster Flannel Hot Mill Continuous Pull Gloves

Clute Pattern—Knuckle Strap—Band Top



Men's size. Sewn in-seam. Palm, thumb and index finger have 2 layers of extra-heavy canton flannel double-quilted. Outside, flannel nap out, quilted to inside, flannel nap in, for wear and comfort; 2 1/4-inch band top; roomy construction for instant removal in emergency.

Packed 10 dozen in shipping container weighing 47 pounds.

No. 4817.....per dozen pairs

U.S. Black Neoprene Latex Industrial Gloves



No. 1398

No. 102 Light

*No. 102, 10 1/2-Inch Length, Sizes 7 to 9.....per doz. \$6.47

*No. 102, 10 1/2-Inch Length, Sizes 9 1/2 to 11....per doz. 9.40

No. 1311 Medium

No. 1311, 10 1/2-Inch Length, Sizes 7 to 9.....per doz. \$8.80

No. 1311, 10 1/2-Inch Length, Sizes 9 1/2 to 11....per doz. 11.17

No. 1398 Heavy

No. 1398, 14-Inch Length, Sizes 9 to 12.....per doz.\$25.40

No. 1399 Heavy

No. 1399, 18-Inch Length, Sizes 10 and 11...per doz.\$46.27

Surety Sureseal Synthetic Acid Gloves



Synthetic glove resists all acids and rubber solvent chemicals. When using with very active organic solvents, allow glove to dry thoroughly. Outlasts neoprene and natural rubber. Color, black.

When ordering, give No. and size.

Regular Shape

	Light Wt.	Med. Wt.	Hvy. Wt.	Med. Hvy. Wt.	Hvy. Wt.	Hvy. Wt.
No.....	116	126	129	146	149	166
Per Dozen.....						
Lgth....inches	10 1/2	10 1/2	10 1/2	14	14	18
Thick....inches	.012	.015	.023	.025	.038	.035
Size.....	7-9	10-11	9-10-11	9-11 1/2	9-10-11	9-10-11

With Turn-Cuffs

	Med. Hvy. Wt.	Hvy. Wt.
No.....	136	156
Per Dozen.....		
Length....inches	12	16
Thickness....inches	.022	.035
Size.....	8-9-10-11	9-10-11

**No. 1367 U.S. Royal Dipped Canvas
Utility Gloves
Knit Wrist**



For protection against cuts, splinters, abrasion, water, oils, mild acid solutions and disinfectants.

Made of full cut, 8-ounce canton flannel inserts, dipped in specially compounded neoprene latex. Heavy weight, curved fingers, good flexibility and soft flannel lining.

Packed 1 dozen pairs to a box.

No. 1367, Black..... per pair

**Fish Brand Waterproof Aprons
Duck Aprons**



Used by butchers, dairymen, tanners, etc.

Single but made of a heavy material and reinforced with a large outside patch where most of the wear comes.

Made in No. Y4149 yellow and No. B4149 black.

Size, 40x50 inches.

Each..... \$2.90

Common Barvel Aprons

Used by automobile washers, packers, cannery and dairymen.

Made double throughout in No. Y4101 yellow and No. B4101, black.

Size, 45x33 inches.

Each..... \$2.00

**No. A-100 U. S. Medium
Rubber Wash Aprons**



Double coated black rubber on heavy drill.

One grommet in each top corner of bib and each side, reinforced with stays.

All edges hemmed and apron completely vulcanized after making.

Size, 33x45 inches

**No. A-102 U.S. Gray Double Coated
Rubber Acid Aprons**



Gray rubber double coated on drill.

This apron has two grommets at the top and two at the sides.

Size, 32x47 inches.

Weight, 3 pounds.

No. A-102..... per dozen

Holcomb Asbestos Cloth Safety Aprons



No. 506

**Standard
Bib Aprons**

No.	Each	Size In.
500	\$3.70	24x30
502	4.45	24x36
504	5.25	24x42
506	5.80	24x48

Slit Aprons

No.	Each	Size In.
540	\$7.25	24x48
541	8.35	30x48

**No. 83 Tower Arrow Brand Rubberized
Overalls**



Full sized, seams strongly stitched before waterproofing. Durable, flexible and comfortable. No cemented seams. Sewed on buttons.

Resists abrasion, not affected by high or low temperatures.

No. Y83 yellow, No. B83 black.

Size No.	Each	Waist In.	Leg In.
00	\$5.23	48	30
0	4.75	44-46	30
1	4.75	42	30
2	4.75	38-40	30
3	4.75	36	30

**Fish Brand Tarp
Waterproof Hats**



Made in No. B11, black and No. Y11, yellow.

Made in sizes 6¾, 7, 7¼ and 7½. Sizes 6½ and 6¾ for boys at same price.

Each..... \$1.10

**No. 16 Tower Arrow Brand Rubber
Sou'wester Hats**



Sizes	6¾	7	7¼	7½
No. Y16, Yellow.....	\$1.35	1.35	1.35	1.35
No. B16, Black.....	1.35	1.35	1.35	1.35

Fish Brand Reflex Medium Waterproof Coats



Double throughout.

Fitted with inside storm-lap and reflex edges, clothlined collar, inside storm-cuffs and two stay-fast pockets.

Length, 44 inches, all sizes.

Made in No. Y421 yellow and No. B421 black.

Size No....	00	0	1	2	3
Each.....	\$7.37	6.70	6.70	6.70	6.70
Chest...in.	48	44-46	42	38-40	36

No. 43 Tower Arrow Brand Rubberized Coats

Medium

A three-quarter length coat with corduroy lined collar, two outside pockets, storm lap and sewed on buttons. Waterproof, durable. Lightweight, flexible, comfortable. Resists abrasion, high and low temperatures.

Available in No. Y43, yellow or No. B43, black.

Length, 44 inches, all sizes.

Size No....	0	1	2	3
No. 43....ea.	\$7.65	7.65	7.65	7.65

Chest or

Waist...in. 44-46 42 38-40 36

Also furnished in Size 00, 48 inches at 10 per cent extra.



Fish Brand Waterproof String Pants

String pants are double throughout and are fitted with draw strings at waist.

No. Y901 is yellow.

No. B901 is black.

Size No...	00	0	1	2	3
Each.....	\$4.57	4.15	4.15	4.15	4.15
Size Waist					
.....in.	48	44-46	41-43	38-40	35-37
Size Leg					
.....in.	30	30	29	28	27



Beacon Falls Men's Industrial Boots

Designed for rugged wear. Black, duck-lined boot, with Duratest non-skid design sole and heel, ribbed leg, cushion insole.

In all heights, with or without steeltoe.

No.	Description	* Size Range
MB-215	Hip.....	5-14
MB-216	Hip, Steeltoe.....	5-13
MB-415	Sporting.....	5-14
MB-715	Storm King.....	5-14
MB-716	Storm King, Steeltoe.....	5-13
MB-915	Short.....	5-14
MB-916	Short Steeltoe.....	5-13

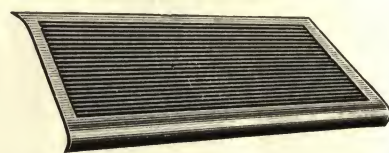
*Available in whole sizes only.



No. MB-915

Buffalo Corrugated Stair Treads

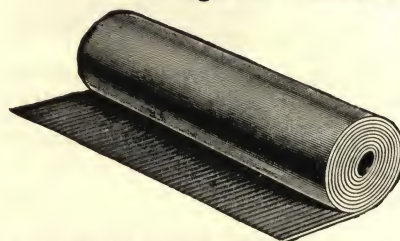
Black or Chocolate Color



Made of rubber. Nose molded onto tread when made.

Size Inches	Black Ship. Wt. Pounds per Gross	Chocolate Ship. Wt. Pounds per Gross
9x18.....	172	180
9x24.....	250	256
9x36.....	406	415

Corrugated Rubber Matting



Rubber matting will stand any amount of water and mud without injury. Dries quickly and is durable, withstanding wear better than other kinds of floor covering. Can

also be furnished in colors of red or white, or with white top and black back. Regular styles are: Corrugated, Pyramid, Pebbled, and Smooth.

Thicknesses vary from $\frac{3}{8}$ to $\frac{1}{4}$ -inch. Regular width is 36 inches; maximum, 48 inches; in rolls of 50 yards.

Shorter lengths up to 28 feet, can be had in widths up to 78 inches. Prices upon application.

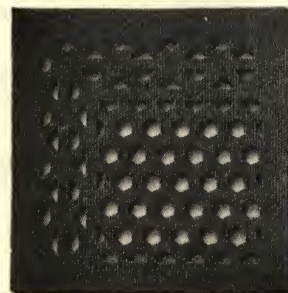
U. S. Perforated and Corrugated Mats

A durable mat, conformable to uneven surfaces, sanitary and easily cleaned. There is no metal to stain or scratch marble floors or stairs.

Used outside and inside entrances to theaters, hotels, elevators, etc. Can be furnished with smooth or corrugated surface, the latter being a better shoe scraper. In red, green, black, white, blue, salmon, yellow, gray, and maroon.

Names, monograms, initials, numbers and advertising slogans can be inserted in perforated mats at an extra charge.

Prices upon application.

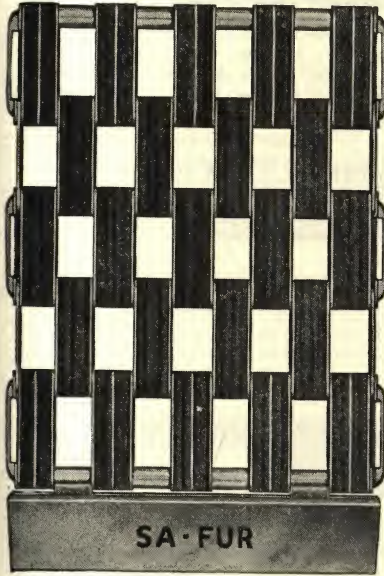


Cocoa Door Mats



No.	Medium Brush Per Dozen	Extra Brush per Dozen	Extra Chain per Dozen	Size Inches
1	14x24
2	16x27
3	18x30
4	20x33
5	22x36
6	24x39
7	26x42
8	28x45
9	30x48

Sa-Fur Metal and Asphalted Felt Mats No. 1 Brass and Asphalted Felt Mat



Recommended for office and public buildings, institutions, etc. where traffic is extremely heavy.

Mat has extreme durability, ease of handling and is reversible.

Laminated sections of asphalted woolen felt bound between tempered brass scraper plates provide surface sufficiently abrasive to remove all dirt from passing feet. Strung on No. 10 galvanized steel wire and bound at the sides with a patented end clamp.

Mat is $\frac{3}{8}$ -inch thick, and weighs $2\frac{1}{2}$ pounds per square foot.

Brass wires supplied at an additional cost per square foot.

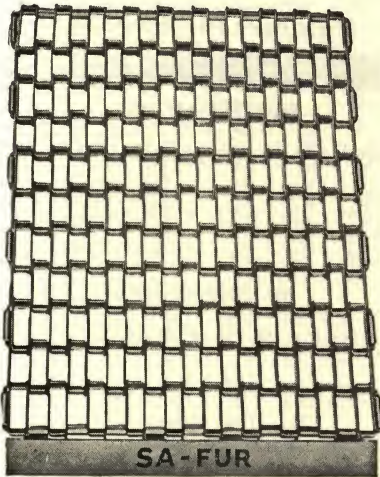
Beveled brass nosing attached at front and back ends only, at an additional cost per lineal foot.

Made to order in any length and up to 6 feet in width. Greater widths if necessary. Also made in any shape.

No. 2 Steel and Asphalted Felt Mat

Mat has identical construction, specifications, weights, thickness and usages as No. 1 Brass and Asphalted Felt Mat with the exception that steel scraper plates are used instead of brass.

No. 10 Sa-Fur Heavy Duty All Steel Galvanized Link Mats



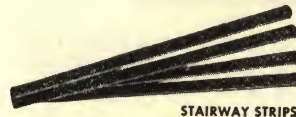
Designed for use in schools, institutions, meat processing plants, dairies, plating rooms, machine shops, and all other industrial and commercial locations where grease and chips prevail. The narrow spaces between links trap all of the dirt, grease and chips scraped from shoes, and prevent heels from catching.

Made of No. 10 galvanized steel, .135-inch diameter wire in sizes up to 6 feet in width; wider if required, any length, or in any shape required.

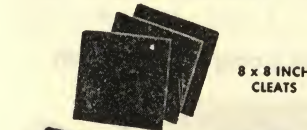
Brass nosing attached to front and back ends only.

Mat is $\frac{3}{8}$ -inch thick and weighs $2\frac{1}{2}$ pounds per square foot.

Safety-Walk Wetordry Non-Slip Surfacing Types A and B



FOR BRICK-SHAPE
TILE FLOOR



In two types, differing only in method of application: type A applied with separate liquid adhesive and is used for rough concrete and where slight amounts of dust or high humidity might not be entirely eliminated at time of application; type B has pressure-sensitive adhesive on back and is ready to apply—it adheres to all smooth, clean, dry surfaces.

Cleats and Strips.

Natural (black) in fine or medium; colored in medium grade. Natural (black) in coarse only in Type A. Both types packed 48 cleats in pkg. or box, 4 pkgs. or boxes to carton.

96 Foot Rolls. Medium grade in natural (black), red, green or silver. Natural (black) in coarse only in Type A. Individually packed.

Cleats and Strips

Size.....inches	6x24	3½x7½	5½x5½	¾x24	8x8
Pkg. Content..sq. ft.	48	9	10⅓	6	21½
Ship. Wt. per Pkg.:					
*Type A (Maximum).....lb.	17	3½	3½	1½	8
Type B....pounds	15	4	4	2	8

Standard 96-Foot Rolls

Roll Width.....inches	4	6	8	12	14	24
Roll Content.....square feet	32	48	64	96	112	192
Ship. Wt. per Roll: Type A..lb.	8	11	14	22	25	41
Type B..lb.	10	13½	20	27	32	54

Adhesive

For Applying Type A Safety-Walk. One gallon is needed to apply 75 cleats Type A, 6x24-inch size, to porous wood or concrete.

No.....	A16	A32	A128	.....
Size.....	1-Pt.	1-Qt.	1-Gal.	5-Gal.
No. Cans per Carton.....	12	12	6	1
Ship. Weight per Ctn....lb.	17	31	74	50

Special Beading Sealer. For use where gasoline or other solvents will be encountered after Safety-Walk is installed. Packed in 5-oz. tubes, 12 tubes to carton. Shipping weight per carton, 10 pounds.

*Medium grade only in ¾x24-inch size for Type A; weights for other sizes are for coarse; others slightly less.

3M Safety-Walk Underlayment

Apply over worn diamond tread steel stairs and floor plates as foundation for Safety-Walk Wetordry Non-Slip Surfacing; spreads like mortar; shatterproof, somewhat resilient base; no need to grind plates smooth.

Combination Package Safety-Walk Underlayment—7 pounds underlayment cement and 1 quart underlayment solution; covers approximately 16 square feet to ⅛-inch thickness. Shipping weight 12 pounds.

Safety-Walk Underlayment Cement—30 and 120-lb. waterproof bags and 200-lb. fiber drum; shipping weights, 32, 125 and 210 pounds, respectively.

Safety-Walk Underlayment Solution—in 1-gallon glass bottle—shipping weight, 14 pounds.

No. 200 Hargrave Alloy Steel Cold Chisels

Individually Tested



This chisel is made from a special analysis tool steel. It is forged out under the trip hammer, assuring much greater durability than can be expected of drop forgings.

Each tool is carefully tempered for the work for which it is intended and tested for hardness and toughness.

Size of steel is same as width of cutting edge.

Width Blade.in.	1/4	5/16	3/8	1/2	5/8	3/4	7/8	1
No. 200 per doz.	\$4.90	5.20	5.84	6.78	8.12	10.74	12.92	16.28
Length.....in.	5	5	5	6	6 1/2	7 1/2	8	8 1/2

No. 205 Hargrave Extra Long Cold Chisel



Made of alloy steel, power tested for proper hardness and toughness. Not widened at point. Black lacquer finish. Packed in bulk.

SIZE, INCHES—		Per Dozen	Wt., Lb. per Dozen	SIZE, INCHES		Per Dozen	Wt., Lb. per Dozen
Width Blade	Length			Width Blade	Length		
1/2	10	\$8.12	7	1 1/4	18	\$37.52	75
1/2	12	8.76	9	3/4	24	20.84	36
5/8	12	10.42	12	7/8	24	25.00	48
3/4	12	11.98	18	1	24	32.30	70
7/8	12	16.14	24	1 1/4	24	45.84	102
1	12	19.28	30	1 1/2	24	78.14	146
3/4	18	16.14	27	1 1/4	36	63.04	155
7/8	18	19.80	37	1 1/2	36	103.68	222
1	18	25.00	47	...	...	...	...

No. 223 Hargrave Cape Keyseating Chisels

Individually Tested



Hand forged from alloy steel. Blue lacquered body and polished blade.

Cut Edge.in.	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	7/8
No. 223.per doz.	\$6.78	7.82	8.76	9.70	10.74	12.20	12.82	14.58	19.48
Length....in.	4 1/2	5	6 1/2	7	7 1/2	8	8	8 1/2	9
Diam. Steel.in.	5/16	3/8	1/2	5/8	3/4	3/4	7/8	1	1
Wt., Doz....lb.	1 1/16	1 7/8	3 1/16	5 1/2	6 7/8	10 7/8	11 3/4	15 3/8	24 3/4

No. 233 Half Round Chisels

Individually Tested



Cut Edge.in.	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	7/8
No. 233.per doz.	\$6.78	7.82	8.76	9.70	10.74	12.20	12.82	14.58	19.48
Length....in.	4 1/2	5	6 1/2	7	7 1/2	8	8	8 1/2	9
Diam. Steel.in.	5/16	3/8	1/2	5/8	3/4	3/4	7/8	1	1
Wt., Doz....lb.	1 1/16	1 7/8	3 1/16	5 1/2	6 7/8	10 7/8	11 3/4	15 3/8	24 3/4

No. 243 Hargrave Diamond Point Chisels



Individually Tested

Made of alloy steel; well balanced.

Finished in blue lacquer with polished point.

Cutting Edge..in.	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	7/8
Per Dozen..	\$6.78	7.82	8.76	9.70	10.74	12.20	12.82	14.58	19.48
Length..in.	4 1/2	5	6 1/2	7	7 1/2	8	8	8 1/2	9
Diameter Steel..in.	5/16	3/8	1/2	5/8	3/4	3/4	7/8	1	1
Approx. Wt. Doz....lb.	1 1/16	1 7/8	3 1/16	5 1/2	6 7/8	10 7/8	11 3/4	15 3/8	24 3/4

No. 580 Hargrave Rivet Busters



Forged from alloy steel. Tested for hardness, toughness.			
Length.....inches	9	12	18
No. 580.....per dozen	\$13.54	16.14	35.42
Cutting Edge.....inches	1 1/2	5/8	3/4
Size Stock.....inches	3/4	7/8	1
Weight per Dozen.....pounds	12 3/4	24	48

No. 962 Hargrave Tile Chisels Alloy Steel



Packed 1 dozen in a box.

No.....	962
Per Dozen.....	\$5.84
Cutting Edge.....inches	1 1/4
Length.....inches	5
Weight per Dozen.....ounces	12

No. 963 Hargrave Plugging Chisels



Hand forged from special analysis alloy steel. Length, 10 inches.

Bright dark blue lacquered body and polished blade.

Packed 6 in a box.

Cutting Edge.....inches	3/16	1/4
No. 963.....per dozen	\$11.46	12.50
Diameter Steel.....inches	1/2	5/8
Weight per Dozen.....pounds	6 1/16	9 3/16

No. 263 Hargrave Solid Punches



Trip-hammer forged from special analysis alloy steel, hammer tested. Octagon handle.

Size Point...in.	1/16	1/8	5/32	3/16	1/4	5/16	3/8	1/2
No. 263.per doz.	\$5.20	5.20	5.20	5.84	6.26	6.66	8.02	8.76
Length...inches	4	4 1/2	5	5 1/2	6	6 1/2	7	8
Diam. Steel..in.	1/4	5/16	3/8	3/8	1/2	1/2	5/8	5/8
Wt. per Doz..lb.	3/4	1	1 1/2	1 3/4	3 1/4	3 3/4	6 1/2	8

Hargrave Pin Punches



No. 2864—4-Inch

Pt. In.	Per Doz.	Steel In.	Pin Lgth. In.	Wt. Lb. Doz.	Pt. In.	Per Doz.	Steel In.	Pin Lgth. In.	Wt. Lb. Doz.
1 1/16	\$5.00	5/16	1 1/2	15 1/16	7/32	\$5.00	3/16	1	7 1/8
3/32	5.00	5/16	1 1/16	7 1/8	1/4	5.12	3/8	1	1 1/4
1/8	5.00	5/16	3/4	7 1/8	5/16	5.24	7/16	1	1 1/2
5/32	5.00	5/16	13/16	15 1/16	3/8	5.48	1/2	1	2 1/16
3/16	5.00	5/16	1 1/16	7 1/8	...	...	...	...	...

No. 2866—6-Inch

Point.....inches	3/32	1/8	5/32	3/16	7/32	1/4
No. 2866....per doz.	\$6.26	6.26	6.26	6.26	6.26	6.26
Steel.....inches	3/8	3/8	3/8	3/8	3/8	3/8
Pin Length.....in.	1 7/8	1 7/8	1 7/8	1 7/8	1 7/8	1 7/8
Length.....inches	6	6	6	6	6	6
Wt. per Doz.....lb.	15 1/16	1 11/16	1 3/4	1 13/16	1 7/8	1 11/16

No. 2869—9-Inch

Point.....inches	1/8	3/16	1/4	5/16	3/8
No. 2869.....per dozen	\$10.42	10.42	10.42	10.42	10.42
Steel.....inches	1/2	1/2	1/2	1/2	1/2
Pin Length.....inches	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2
Length.....inches	9	9	9	9	9
Weight per Doz.....pounds	3 7/8	4	4 1/4	4 5/8	5

No. 2873 Hargrave Prick Punches



Hand forged from special analysis alloy steel. Finished with bright, dark blue lacquered body and polished blade.

Diameter of Steel.....inches	1/4	3/8	1/2
No. 2873.....per dozen	\$4.38	5.32	6.26
Length.....inches	3 1/2	5 1/2	6
Weight per Dozen.....pounds	3 1/4	13 1/4	3 1/4

No. 284 Hargrave Center Punches



Forged from special analysis alloy steel; hammer tested.

Diameter of Steel.....inches	1/4	3/8	1/2	5/8
No. 284.....per dozen	\$4.38	5.32	6.26	9.16
Length.....inches	3 1/2	5	6	7
Weight per Dozen.....pounds	3/4	1 1/4	3 3/4	6 1/2

No. 620 Hargrave Lining Up Punches



Hand-forged, with hardened and tempered point.

Point.....inches	5/32	3/16	1/4	5/16	1/4
No. 620.....per dozen	\$10.42	11.98	11.98	13.54	16.68
Steel.....inches	1/2	5/8	3/4	7/8	1
Length.....inches	10	12	12	12	18
Taper.....inches	6 1/2	8 1/2	8 1/2	8 1/2	9 1/2
Weight per Dozen..lb.	4 1/2	8 1/2	10	13 1/2	21

No. 630 Hargrave Drift Punches



For driving out pins and bushings and lining up bolt and rivet holes. Hand forged. Length, 10 inches.

Point.....inches	3/16	1/4	5/16	3/8
No. 630.....per dozen	\$10.42	10.42	10.42	11.98
Diameter Steel....inches	5/8	5/8	5/8	3/4

No. 117 Starrett Center Punches



Packed 12 in a box, except size E, 6 in a box.

Size.....	AA	A	B	C	D	E
Each.....	\$.35	.35	.35	.35	.35	.40
Length.....inches	3 1/8	4	4	4	4	5
*Diameter.....inches	1/16	5/64	3/32	9/64	5/32	1/4
Assorted, A, B, C, D, in Plain Box.....per dozen	\$4.20					
Assorted, A, B, C, in Round Wooden Box..per dozen	4.50					

*Diameter at top of tapered point.

No. 18 Starrett Automatic Adjustable-Stroke Center Punches

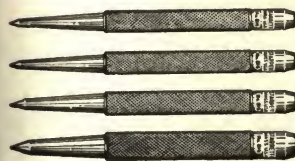
Made of carbon steel. No hammer is needed. Point can be removed for regrounding. Packed 1 in a box.



No.	Each	Lgth. In.	Diam. In.	Wt. Oz.
18AA	\$3.00	3 3/4	3/8	1
18A	3.85	5	1/2	3
18B	4.50	6	5/8	4

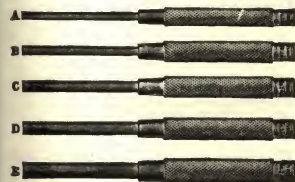
Extra points are available at 35 cents each.

No. 816 Starrett Prick Punches



Hardened and polished; long tapered points. Length, 4 inches. Packed 12 in a box. Weight each, 4 ounces. A, B, C, D.....each \$.25 Assorted Sizes, 3A, 3B, 3C, 3D.per doz. 3.00

No. 248 Starrett Drive Pin Punches



Designed to withstand hard use. Pin drive is 3 1/2 inches long. Length, 8 inches; with knurled grip of 4 1/2 inches. Made of steel, hardened and polished.

Packed 6 in box; assorted, 12 in box.

No.	248A	248B	248C	248D	248E
Each.....	\$.45	.45	.45	.45	.45
Diameter of Point..in.	1/8	3/16	1/4	5/16	3/8
Weight.....ounces	3	4	4 1/2	5 1/2	6

No. 248, Assortment of 12.....each \$5.40
No. 248, Set of 5 in Plain Box.....per set 2.25

No. 460 Millers Falls Square Head Center Punches



Bright finish. Diameter body, 5/16 inch. Head, 3/8 inch square. Overall length, 4 inches.

Packed 1 dozen in a box. Weight, 17 ounces.
No. 460.....per dozen \$3.00

Millers Falls Nail Sets



Molybdenum alloy steel. Hardened point. Length, 4 in. Body diameter, 5/16 in. Weight per dozen, 17 ounces.

No.....	801	802	803	804	805
Per Dozen.....	\$3.00	3.00	3.00	3.00	3.00
Size Point.....inches	1/32	1/32	3/32	1/32	5/32
No. 815, Assortment.....per dozen	\$3.00				

Stanley Hurwood Scratch Awls



Blade, shank and head of steel. Black lacquered handle. Packed 6 in a box.

No.....	6	7
Each.....	\$.65	.70
Blade Length.....inches	2 3/4	3 1/2
Overall Length.....inches	5 7/8	6 1/2
Weight per Box.....pounds	3/4	1 1/8

No. B Stanley Hurwood Ice Picks



Blade, shank and head forged from one piece of steel. Hand-

forged point. Blade, 5 1/2 inches. Diameter, 1/2 inch. Length overall, 9 inches. Hardwood handle, natural finish.

Weight per 1/2 dozen, 1 1/2 pounds.
No. B.....each \$.65

No. 17 Stanley Hurwood Brad Awl Assortments

Tempered blade, locked in handle by rivet. Black lacquered handle. Packed 12 in box; wt., 1 1/8 lb.



Length Blade....in.	1 3/8	1 1/2
Width Tip.....in.	3/32	1/8
Lgth., Overall....in.	4 7/8	5
Each.....	\$.50	.50

No. 169 Johnson Rivet Sets and Headers Forged Steel



Packed 6 in a box.

Size No.	00 & 0	1 & 2	3, 4 & 5	6, 7 & 8
No. 169.....per dozen	10 1/4	5 1/2	5	2 3/4
Weight per Dozen...lb.	10 1/4	5 1/2	5	2 3/4

Sizes of Rivets for Each Size Rivet Set

No. Rivet Set.	00	0	1	2	3	4	5	6	7	8
Size Iron Rivets..lb.	12	10	8	6	5	3	1 3/4	1 1/2	1 1/4	3/4
Copper Rivet No.....	..	5	6	7	8	9	10 & 11	12	13	14

No. 90 Yankee Plain Screwdrivers



Blade and ferrule is finely polished; the handle is of hardwood with black satin finish.

Each blade individually tested.

Lgth. Blade In.	Per Dozen	Length Overall Inches	Wt., Lb. per Doz.	Lgth. Blade In.	Per Dozen	Length Overall Inches	Wt., Lb. per Doz.
1 1/2	\$10.94	4 1/4	1 1/8	8	\$19.20	14	7
2	10.94	5 3/4	1 1/2	10	22.90	16 3/8	10 1/8
3	12.00	7 1/2	1 7/8	12	26.40	18 1/4	11 3/8
4	12.80	9 1/4	2 1/8	15	34.40	21 3/8	13 1/4
5	14.40	10 1/2	2 3/4	18	44.00	27	19 3/4
6	14.40	11 3/4	3 1/2	..	.....	.....	.....

No. 95 Yankee Plain Screwdrivers

Cabinet Style



Blade and ferrule finely polished. Steel blade tempered entire length and individually tested.

Handle of hardwood with black satin finish.

Blade and handle fastened so that they cannot be loosened.

Packed 6 in a box.

Lgth. Blade In.	Per Dozen	Length Overall Inches	Wt., Lb. per Doz.	Lgth. Blade In.	Per Dozen	Length Overall Inches	Wt., Lb. per Doz.
2 1/2	\$10.40	6 1/4	1 3/8	8 1/2	\$16.00	13	2 7/8
3 1/2	10.94	7 1/4	1 1/2	10 1/2	17.60	15	3 1/8
4 1/2	11.74	8 1/4	1 5/8	12 1/2	19.20	17	3 3/8
5 1/2	12.80	9 1/4	1 3/4	15 1/2	22.40	20	3 7/8
6 1/2	13.60	10 1/4	2	.....	.....	..	...

No. 70 Stanley Screwdrivers



Has round steel blade with the end in handle swedged, and a pin through the ferrule and shank securely fastening it. Handle is fluted and stained red.

Packed 6 in a box.

Lgth. Blade.....in.	2 1/2	3	4	5	6	8	10	12
Each.....	\$.50	.50	.55	.55	.60	.85	.95	1.10
Overall Lgth.....in.	6 1/2	8	9	10 1/2	11 3/4	15	17	19
Diam. Blade.....in.	7/32	7/32	1/4	5/16	5/16	3/8	3/8	3/8
Wt. per 6.....lb.	3/4	7/8	1 1/4	1 3/4	2 1/8	3 1/2	3 7/8	4 1/4

Stanley Offset Screwdrivers

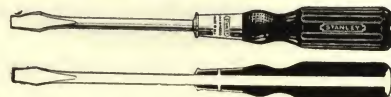


Correctly designed and forged from selected steel. Carefully hardened and tempered to withstand severe strains.

Black finish with nickel plated tips.

No.....	668	669	670	671
Each.....	\$.30	.30	.35	.40
Stock.....inches	5/32	1/4	5/16	3/8
Length.....inches	3	4	5	6
No. in Box.....	12	12	6	6
Weight per 1/2 Dozen.....pounds	5/8	3/4	1	1 3/8

No. 20 Stanley Hurwood Screwdrivers



Machine cross ground tip. Hardwood handle. Blade, shank, and head are of one-piece steel. The blade will not turn in the handle.

Standard Blade and Tip

Blade In.	Each	Diam. In.	Lgth. Overall, In.	No. in box	Wt. Lb. Per 1/2 Dozen
2 1/2	\$.68	7/32	6 1/2	6	3/4
3	.68	1/32	7 5/8	6	1
4	.70	1/4	9	6	1 3/8
5	.75	5/16	10 1/2	6	2 1/8
6	.80	3/16	12	6	2 1/2
8	1.05	3/8	14 3/4	6	4
10	1.25	3/8	16 3/4	6	4 1/4
12	1.45	3/8	18 3/4	6	4 7/8

No. 21 Stanley Hurwood Baby Screwdrivers



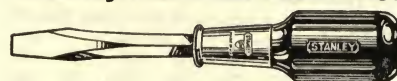
Will turn a good sized screw.

Blade, shank and head hot forged from one piece of finest screwdriver steel. Two projecting wings on head together with a rivet that passes through ferrule handle and shank, anchor blade in handle. Size blade, 1 1/2 inches. Diameter blade, 1/32 inch. Length overall, 4 1/8 inches.

Packed 6 in a box; weight, 1/2 pound.

No. 21.....each \$.50

Stanley Hurwood Machinists' Screwdrivers



For heavy work. Alloy steel blade. Black hardwood handle. Six in box.

No.....	51	52
Each.....	\$.90	1.05
Length Blade.....inches	1 3/4	3 1/8
Length Overall.....inches	5 1/2	7 1/8
Weight per 1/2 Dozen.....pounds	2	3 1/2

No. 331 Millers Falls Jewelers' Screwdrivers



A slim, light screwdriver suitable for the most delicate work.

Blade hammer-forged from best quality tool steel, carefully hardened and tempered. Diameter of blade, 3/64 inch.

Hardwood handle with mahogany lacquer finish.

Nickel-plated steel ferrule.

Packed 6 in a box.

Length Blade.....inches	2	3	4	5	6	8
No. 331.....per dozen	\$4.50	4.60	4.85	5.40	5.85	7.05
Wt. per Box...pounds	3/8	3/8	1/2	1/2	5/8	3/4

No. 1011 Stanley Spark Plug Testing Screw Drivers



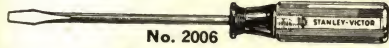
Built into the transparent, shockproof, unbreakable handle is a neon tube. When the tip of the driver is placed on a firing spark plug, distributor, or the various parts of an ignition system, the neon tube flashes red.

The intensity and regularity of the spark is gauged by the brilliance of the light and the regularity of the flashes in the handle.

Blade, 4 inches; diameter, 3/16 inch; over all, 8 1/2 inches.

No. 1011.....each \$1.00

Stanley-Victor Screwdrivers



No. 2006

Blade forged from nickel molybdenum alloy steel, hardened and tempered; locked in by heavy wings on tang. Tips accurately machine cross ground to size. Polished blade. Handle of breakproof, shockproof cellulose composition; absorbs no oil or water; 2-tone amber color; upper portion non-slip finish; nose finished black.

No.	Description	Width Blade In.	Bar In.	Length Overall In.	Wt. Oz. Each	Each
2006	Round Blade.....	3	1/4	6	3 1/2	\$.70
2006	Round Blade.....	4	1/4	7 3/4	4	.75
2006	Round Blade.....	6	5/16	10 1/4	6 1/2	1.05
2006	Round Blade.....	8	3/8	13	10	1.45
2006	Round Blade.....	10	3/8	14 1/2	15	1.55
2007	Square Blade.....	4	1/4	7 3/4	4	.95
2007	Square Blade.....	6	5/16	10 1/4	6 1/2	1.25
2007	Square Blade.....	8	3/8	13	10	1.65
2008	Round Blade.....	8	3/16	11 1/2	4 7/8	.80
2008	Electricians, Round Blade	3	3/16	6 1/2	2 1/2	.65
2008	Electricians, Round Blade	6	3/16	9 1/2	4 1/2	.70
2008	Electricians, Round Blade	10	3/16	13 1/2	5	.85
2010	Pocket Size, N.P. Clip...	2	1/8	4 3/8	1 1/2	.30
2012	Close Quarter.....	1 1/4	1/4	3 1/4	1	.70

No. 555 Starrett Jewelers' Screwdrivers



Made from steel tubing, knurled and nickel-plated. Blades vary from .025 to .100 inch in width. Top is finished with a swivel knob, concave to fit the finger.

Packed 6 in a box.

No.	Each	(Diam. In.) Blade
555AA	\$.60	1/4 .025
555A	.60	1/4 .040
555B	.60	1/4 .055
555C	.60	1/4 .070
555D	.60	1/4 .080
555E	.60	1/4 .100

No. 555, Set of 6.....	per set	\$3.60
No. 555, Set of 6 Complete in Case.....	per set	4.00
Extra Blades.....	each	.30

No. 26 Stanley Screwdriver Bits



Forged from nickel molybdenum steel, oil tempered and polished. Points accurately machine crossground to size. Length, 5 inches. Packed 12 in a box.

Size Tip Inches	Each	FOR SIZE SCREW No. OR INCHES		Weight Lb. per Dozen
		Fillister Head	Round Head	
3/16	\$.40	4-6	5-8	5 5/8
1/4	.40	6-9	8-10	3 3/4
5/16	.40	9-12, 1/4"	10-12	1 1/8
3/8	.50	12-17, 5/16"	14-18	1 1/2
1/2	.50	17-22	18-24	1 5/8

No. 26AB Assortments

Assortment consists of the following bits: 3 each of 1/4 and 3/8-inch and 6 of 5/16-inch. One dozen on wood block. Weight, 2 pounds.

Yankee Countersinks



Used to ream out hole for head of screw.

Made of high quality steel for use on hard and soft woods.

Packed 1 dozen in a cardboard container.

No.....	3030	3130	3530
Per Dozen.....	\$8.80	8.80	6.00
For Screwdriver Nos.....	30A, 130A	31A, 131A	35, 135

Yankee-Phillips Screwdrivers For Phillips Recessed Head and Self Centering Screws and Bolts Regular



Polished alloy steel blade; hardwood handle, natural finish.

No.....	941	942	943	944
Point Size.....	1	2	3	4
Per dozen.....				
Length of Blade.....	inches 3	4	6	8
Length Overall.....	inches 6 3/4	9	11 1/2	14 1/4

Heavy Duty



Polished alloy steel blade; hardwood handle, black satin finish.

No.....	901	902	903	904
Point Size.....	1	2	3	4
Per dozen.....				
Length of Blade.....	inches 3	4	6	8
Length Overall.....	inches 6 7/8	9 1/4	11 5/8	13 7/8

Point Sizes to Fit Phillips Recessed Head Screws

Use Point Size No.....	1	2	3	4
For Flat and Oval Head Wood Screws.....	Up to 4	5-9	10-16	18-Larger
For Round Head Wood Screws.....	Up to 4	5-10	11-16	18-Larger
For Flat and Oval Head Machine Screws.....	Up to 4	5-10	12, 1/4	5/16-Larger
For Round & Fillister Head Machine Screws.....	Up to 4	5-10	12-5/16	3/8-Larger
For Flat and Oval Head Stove Bolts.....	1/8-3/16	1/4	5/16	Larger
For Round Head Stove Bolts.....	1/8-3/16	1/4	5/16-1/2	
For Casehardened Sheet Metal Screws, Flat, Rd., Oval and Binding Heads	Up to 4	5-10	12-14	.....

When ordering drivers, specify No. and point size.

Stanley Stanloid Screwdrivers

For Phillips Recessed Head and Self-Centering Screws and Bolts



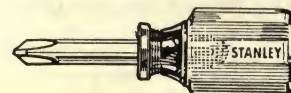
Tempered, polished alloy steel blade held in handle by two ears swaged on the shank. Fluted handle of Stanloid, a tough, non-metallic substance.

No.....	2751	2752	2753	2754
Each.....	\$.60	.90	1.15	1.85
Size.....	1	2	3	4
Fits Screws and Bolts Nos....	Up to 4	5-9	10-16	18 & Larger
Length Blade.....	in. 3	4	6	6
Diam. of Round Shank.....	in. 3/4	1/2	5/16	3/8
Weight per 1/2 Dozen.....	lb. 1	1 3/4	2 3/4	3

*Made with hexagonal shank.

No. 2762 Stanley Stubby Screwdrivers

For Phillips Recessed Head Screws and Bolts



Alloy steel bar, precision machined with gaged points to insure an accurate fit in recessed heads.

Stanloid handle fluted for secure grip.

Packed 6 in a box.

No.....	2762
Each.....	\$.90
Point Size.....	2
Blade.....	inches 1 1/2 x 1/4
Fits Phillips Screws.....	5 to 9 Incl.
Weight per 1/2 Dozen.....	pounds 3/4

Yankee Spiral Ratchet Screwdrivers

Quick Return Type

Right and left hand, and rigid.

Has a spring in handle which causes handle to come back for the next push similar to an automatic or push drill. This is more rapid and convenient than pulling handle back.

This feature is especially valuable in driving screws in narrow or deep places where the left hand cannot hold chuck on end of tool. The spring keeps bit in position as it forces the handle back for the next stroke.

Plated finish.

Three bits of different widths included with each tool. Packed 1 in a box.

No. 130A Standard Pattern



Extreme length with bit in chuck, 14 $\frac{3}{4}$ inches closed, 20 inches extended. Weight per dozen, 15 pounds.

Packed 1 in a box.
No. 130A.....each \$8.94

No. 131A Heavy Pattern



Extreme length with bit in chuck, 19 $\frac{3}{8}$ inches closed, 28 inches extended. Weight per dozen, 24 pounds.

No. 131A.....each \$11.20

Extra bits for Nos. 130A and 131A, \$5.34 per dozen; \$1.34 per set of 3.

No. 135, Light Pattern—For Small Screws

For electrical and similar work. Much lighter and more sensitive than No. 130A.

Extreme length with bit in chuck: 10 $\frac{1}{4}$ inches closed, 13 $\frac{1}{2}$ inches extended. Weight per dozen, 8 $\frac{1}{4}$ pounds.

No. 135.....each \$7.86

Stanley Screwdriver Bits

For Phillips Recessed Head and Self-Cutting Screws and Bolts



Made of high quality steel. Hard face tips assure maximum wear resistance for driving sheet metal screws. Packed 12 in a box.

No.	Purpose	Each
261	Bit Brace.....	\$.65
262		.65
263		.65
264		.65
301	Yankee Drivers Nos. 30A, 130A, 30, 130	.50
302	Millers Falls Drivers Nos. 61 and 610	.50
303	Greenlee Drivers Nos. 442-452	.50
311	Yankee Drivers Nos. 31A, 131A, 31, 131	.50
312	Millers Falls Drivers Nos. 62 and 620	.50
313	Greenlee Drivers Nos. 443-453	.50
321	Yankee Drivers Nos. 35, 135, 33H	.50
322	Millers Falls Drivers Nos. 67, 670	.50
	Greenlee Drivers Nos. 441-451	.50

No.	Point Size No.	Fits Phillips Screws	Length Inches	Wt. Lb. per Doz.
261	1	No. 4 and Smaller	4 $\frac{1}{2}$	5 $\frac{3}{8}$
262	2	No. 5 to 9 Inclusive	4 $\frac{1}{2}$	3 $\frac{3}{4}$
263	3	No. 10 to 16 Inclusive	4 $\frac{1}{2}$	1 $\frac{1}{8}$
264	4	No. 18 and Larger	4 $\frac{1}{2}$	1 $\frac{1}{2}$
301	1	No. 4 and Smaller	3 $\frac{1}{4}$	5 $\frac{3}{8}$
302	2	No. 5 to 9 Inclusive	3 $\frac{1}{4}$	3 $\frac{3}{4}$
303	3	No. 10 to 16 Inclusive	3 $\frac{1}{4}$	3 $\frac{3}{4}$
311	1	No. 4 and Smaller	3 $\frac{1}{4}$	5 $\frac{3}{8}$
312	2	No. 5 to 9 Inclusive	3 $\frac{1}{4}$	3 $\frac{3}{4}$
313	3	No. 10 to 16 Inclusive	3 $\frac{1}{4}$	3 $\frac{3}{4}$
321	1	No. 4 and Smaller	2 $\frac{7}{8}$	5 $\frac{3}{8}$
322	2	No. 5 to 9 Inclusive	2 $\frac{7}{8}$	5 $\frac{3}{8}$

Yankee Spiral Ratchet Screwdrivers

Right and left hand, and rigid. Plated. Three sizes of bits are furnished with each tool. Packed 1 in a box.

No. 30A Standard Pattern



Drives or draws screws by pushing on handle. Also has ratchet movement and can be locked rigid. Changed right to left hand or locked instantly by moving shifter.

When closed and locked, with shifter midway between ends of slot, the tool becomes rigid or as an ordinary screwdriver. Can also be made rigid with spindle fully extended and shifter midway between ends of slot. In this position it becomes especially effective to reach out-of-the-way places.

Stroke, 5 $\frac{1}{4}$ inches; length, closed, with bit, 13 inches; extended, 18 $\frac{1}{4}$ inches.

No. 30A, Weight per Dozen, 13 $\frac{1}{2}$ Pounds.....each \$8.40

No. 31A Heavy Pattern

For large screws, as used in car shops, etc. Drives or draws screws by pushing on handle. Also has ratchet movement and can be locked rigid. Changed right to left hand or locked instantly by moving shifter. Stroke, 8 $\frac{1}{4}$ inches, length closed, with bit, 16 $\frac{1}{4}$ in.; length extended, 25 in.

No. 31A, Weight per Dozen, 21 Pounds.....each \$10.54

Extra bits for Nos. 30A, and 31A, \$5.34 per doz.; \$1.34 per set of 3.

No. 133H Yankee Handyman Quick-Return Spiral Screwdrivers



With quick-return spring. Length with bit, spiral extended, 9 $\frac{5}{8}$ in.; spiral not extended, 7 $\frac{1}{2}$ in. Net wt., 7 oz.

Packed 4 in a merchandiser. Shipping weight, 2 $\frac{3}{8}$ pounds.
No. 133H.....each \$4.00

No. 233H Yankee Handyman Spiral Ratchet Screwdrivers

Transparent Handle



For driving screws, drilling holes and drawing screws. Has quick return spring in handle.

Transparent magazine handle contains: 1 each drill point, $\frac{5}{64}$ H, $\frac{3}{64}$ H, and $\frac{1}{64}$ H inches; $\frac{5}{32}$ inch bit for small screws; $\frac{1}{4}$ inch bit supplied in chuck of driver.

Length with bit, spiral not extended, 8 inches; spiral extended 10 inches.

Packed 4 in a merchandiser.

Shipping weight, 2 $\frac{1}{2}$ pounds.

No. 233H.....each \$6.00

Yankee Offset Ratchet Screwdrivers

No. 3400



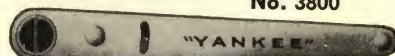
Has two blades of special alloy steel properly hardened and tempered.

Works in close quarters. Drives a broad range of screws. Blade dimensions: small blade in head, $\frac{1}{4}$ inch x .035; large blade in head, $\frac{3}{8}$ inch x .045.

Packed 6 in box. Weight per box, 9 ounces.

No. 3400.....per dozen \$13.60

No. 3800



Has two blades of special alloy steel hardened and tempered. Works in close quarters. May be used on self-tapping screws.

Small blade, $\frac{3}{8}$ inch x .045; large blade, $\frac{1}{16}$ inch x .060.

Packed 6 in box. Weight per box, 13 ounces.

No. 3800.....per dozen \$20.00

No. 10A Yankee Ratchet Screwdrivers

Right and Left Hand—Rigid



Drives or withdraws screws or is locked like plain driver, change being made instantly by simply moving shifter. Ratchet acts easily and is of durable, strong construction.

Polished hardwood handle. Blade is of special alloy steel, ground and polished and tested. Other metal parts are plated and buffed.

Adjustment for right or left hand is made by slide moved in direction of length of blade. Packed 6 in a box.

Length Blade.....in.	3	4	5	6	8
Each.....	\$2.20	2.32	2.40	2.54	2.94
Overall Length.....in.	7 ⁵ / ₈	8 ⁵ / ₈	9 ¹ / ₂	11 ¹ / ₈	13 ¹ / ₂
Weight per Dozen.....lb.	4	4 ¹ / ₈	4 ³ / ₈	6 ¹ / ₈	7

No. 15 Yankee Ratchet Screwdrivers

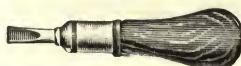


The blade is constructed with a knurled washer, by means of which it can be turned with a finger and the thumb. This permits the hand holding the handle to press steadily against the screw and prevent the screw from wobbling, while the thumb and finger can turn or ratchet the blade until screw is well started in its place. The adjustment is made by shifter. For right hand move toward blade, left hand toward handle; when placed midway, blade is rigid. Plated.

Packed 6 in box.

Length Blade.....inches	2	3	4	5	6	8
Each.....	\$2.00	2.14	2.14	2.20	2.26	2.32
Length Overall.....in.	4 ⁵ / ₈	5 ⁷ / ₈	6 ¹ / ₂	7 ³ / ₄	8 ³ / ₄	10 ⁷ / ₈
Wt. per Doz.....lb.	1 ⁵ / ₈	1 ³ / ₄	1 ⁷ / ₈	2	2 ⁵ / ₈	2 ³ / ₈

No. 12 Yankee Ratchet Screwdrivers



Right and left hand, and rigid.

A strong, substantial screwdriver with a short stub blade made for special use of gunsmiths, fitters, electricians and mechanics.

The adjustment for right and left hand is made by pushing the shifter to opposite ends of the slot; when the shifter is placed midway in the slot, the blade is held rigid as in an ordinary screwdriver. The adjustment being across instead of in line with the blade, any possibility of changing the shifter while in use is avoided.

Nickel-plated alloy steel blade is ⁵/₁₆ inch in diameter, 1 inch long, entire length of screwdriver 5¹/₂ inches.

Packed 6 in a box; net weight per dozen, 3³/₄ pounds.

No. 12, Nickel Plated.....each \$2.94

No. 3423 Yankee Offset Ratchet Screwdrivers

For Phillips Recessed Head Screws



Made of special alloy steel.

Length 3⁷/₈ inches.

Equipped with one each No. 2 and 3 point Phillips bits of special alloy steel.

Packed 6 in an attractive merchandiser. Weight, ³/₄ lb.

No. 3423 per dozen \$20.00

No. 44 Yankee Automatic Drills



Holes can be bored in either soft or hard wood without splitting.

Has adjustable tension on spring, changed by turning cap of tool. Allows light pressure on fine drills to prevent bending and give clean cutting on soft woods, also strong pressure on hard woods or with coarse drills for fast cutting. Drills revolve both ways.

Eight drill points are furnished in handle in magazine, sizes ¹/₁₆ to ¹/₆₄.

Entire length, inclusive of drill point, 11¹/₄ inches.

This tool is made of steel and brass, plated and buffed.

Packed 1 in a box. Net weight per dozen, 9 pounds.

No. 44.....each \$8.70

No. 41 Yankee Automatic Drills



For boring holes in wood for various purposes, as setting screws, brads, nails, etc. Can be used in many places where a gimlet, bradawl or brace cannot be used.

Drill point revolves in both directions. Backward turn on the upstroke of handle serves to free the chips. Points cannot be turned or pulled out of chuck in use.

Furnished with 8 sizes of drill points, ¹/₁₆ to ¹/₆₄ inch. Come into plain sight when magazine in handle is opened.

Made of steel and brass; plated and polished.

Entire length of drill, including drill point, 11¹/₄ inches.

Packed 1 in a box. Weight per dozen, 8¹/₄ pounds.

No. 41.....each \$7.00

No. 188A Millers Falls Automatic Drills



This tool drills eight different size holes quickly and with ease, in hard and soft wood, soft metals, wallboard, plaster, etc. The eight drill points are contained in the numbered compartments in the magazine handle which is made of polished jet black molded bakelite. Drills are removed through a hole in the rotating cap.

The spiral driving mechanism is practically indestructible with proper lubrication.

Eight fluted shank drill points, ¹/₁₆ to ¹/₆₄ inch in diameter are furnished with each tool. Length, 9⁵/₈ inches.

Exposed parts are polished and nickel plated.

Packed 1 in carton; shipping weight, 8 ounces.

No. 188A.....each \$3.80

Yankee Chucks and Drill Points



Used with spiral drivers in place of bit; making them automatic drills. Drill points exchange with Yankee Automatic Drills. No. 135 uses the smallest three sizes only.

Packed 1 set in wooden box.

No.....	309	319	359
Chucks with Points doz. sets...	\$24.80	24.80	12.40
For Screwdriver Nos.....	30A,130A	31A,131A	35,135

Chuck Adapters

No.....	3080	3180	3580
Per Dozen.....	\$4.80	4.80	4.80
Size.....inches	⁹ / ₃₂	⁵ / ₁₆	⁷ / ₃₂
For Screwdriver Nos.....	30A,130A	31A,131A	35,135

Drill Points

No.....	1	2	3	4	5	6	7	8
Per Dozen.....	\$2.54	2.54	2.54	2.54	2.54	2.54	2.54	2.54
Size.....inches	¹ / ₁₆	⁵ / ₆₄	³ / ₃₂	⁷ / ₆₄	¹ / ₈	⁹ / ₆₄	⁵ / ₃₂	¹ / ₄

Williams' Selected Alloy Steel Superpliers With Slip-Joint



Thin, narrow jaws permit use in extremely close places. Drop-forged from selected alloy steel. Diamond embossed handles provide firm hand grip. Gray satin finish, faces polished.

No. 1520—Standard

Length, 9½ inches.

No. 1520.....each \$2.81

No. 1521—Heavy Duty

Particularly useful in plumbing and electrical trades.

Length, 10 inches.

No. 1521.....each \$5.67

No. 410 Champion DeArment Channellock Gripping Pliers Self Gripping



Tongue and groove (Channellock) feature provides vise-like self gripping power on studs, brake rods, battered nuts, pipe, etc. Provides

quick, positive adjustment. Joint bolt never shears.

Light, convenient, strong and versatile. Forged from high grade steel, and properly heat treated.

Capacity, ⅜ to 1½ inches. Length, 9½ inches.

Polished finish.

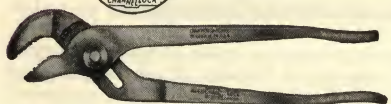
Packed 6 in a carton. Weight per dozen, 12½ pounds.

No. 410.....each \$3.20

No. 420 Champion DeArment Channellock

Pump Pliers

Self Gripping



Used by auto mechanics on certain wheels and axle nuts, etc. and to adjust packing-gland nuts on cars, trucks, and small industrial engines. Used by

airplane mechanics; also by electricians for conduit and other work.

Forged from high grade steel and properly heat treated. Polished finish. Channellock feature prevents joint bolt breaking by removing all strain from bolt.

Capacity, ⅜ to 1½ inches. Length, 9½ inches.

Packed 6 in a carton. Weight per dozen, 9 pounds.

No. 420.....each \$2.90

Crescent MoToR KiT Combination Pliers



A high grade, hand finished tool. Special steel, accurately machined and hardened.

Bolt and nut turned from solid bar of steel and case hardened.

Nickel plated finish, hand buffed.

Packed 1 in a box.

No.	G25	G26	G23	G210
Each.....	\$1.00	1.00	1.35	1.90
Size.....inches	5	6	8	10
Capacity.....inches	¾	1	1¼	1½
Weight.....ounces	3½	8	10	16



CeeTeeCo Combination Pliers

Nickel-plated finish.

No.	H25	H26	H28	H210
Each.....	\$.70	.70	.95	1.35
Size.....inches	5	6	8	10
Capacity.....inches	¾	1	1¼	1½
Weight.....ounces	3½	8	10	16

No. LS26 Crescent Side Cutting Slip Joint Pliers



Regular Crescent Thin Nose Plier with side cutter added. Nickel plated, hand buffed. Size, 6 inches; 1-inch capacity. Weighs 5 ounces.

No. LS26.....each \$1.65

No. D-27 Crescent Universal Pliers



Dropped forged nickel-plated steel. Slip joint. Curved lower jaw will force any object against straight upper jaw. Length, 7 inches. Capacity, 1 inch.

Packed 1 in a box. Weight, 9 ounces.

No. D27.....each \$1.35

Crescent Thin Straight Nose Pliers



Made of alloy steel. Slip joint. Convenient for narrow places. Checker-dot handles, nickel plated.

No.	L25	L26	L28	L210
Each.....	\$1.10	1.10	1.40	2.00
Length.....inches	5	6	8	10

No. J26 Crescent Thin Bent Nose Pliers



Made of alloy steel.

For use on check nuts and similar work. Has slip joint.

Size.....inches 6

No. J26, Nickel Plated.....each \$1.50

Capacity.....inches 1

No. 542 Crestoloy Diagonal Pliers



A powerful cutting pliers made of special crestoloy steel. Tested edges. Size, 7 inches.

Handles designed to give firm grip. Black finish with polished head. Packed 1 in a box; weight, 8 ounces.

No. 542.....each \$2.55

No. 1950 Crestoloy Side Cutting Pliers

Extra Heavy



Forged high grade tool steel. Keen blades. Packed one in box.

Size.....inches	6	7	8
No. 1950.....each	\$2.80	3.30	4.45
Weight.....ounces	7	10	16

No. 50 Crescent Side Cutting Pliers



Keenedged cutters and spring tempered handles. Full polished head with black handles.

Packed 1 in a box.

Size.....inches	5	6	7	8
No. 50.....each	\$2.20	2.40	2.70	3.10
Weight.....ounces	5½	7	10	14

No. 1000 Crescent Combination 3-Cutter Button Pliers



Forged steel.
Gunmetal handles.
Packed 1 in a box.

Size.....inches 8 10 12
No. 1000.....each \$2.30 2.70 3.00
Weight.....pounds ¾ 1½ 1¾

No. 888 Crestoloy Curved Needle Nose Pliers



Made of special
Crestoloy steel.
Spring tempered
nose and handles.

Polished finish head and gunmetal handles.
Packed 1 in a box. Weight, each, 6 ounces.
No. 888, Length, 6 Inches.....each \$2.80

No. M16 Crescent Long Nose Pliers



Drop forged from
special steel.
Equipped with a
strong wire cutter
that will cut with a
clean break; capacity, ¾-inch. Full polished finish.

Packed 1 in a box. Weight 5 ounces.
No. M16, Size, 6 Inches.....each \$1.35

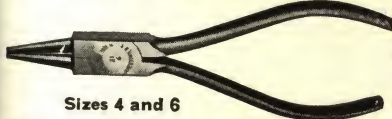
No. 777 Crestoloy Long Needle Nose Pliers



Good gripping
ability. Of forged
steel. Gun metal,
with polished head.
Packed 1 in a box.

6-Inch, Lgth. Overall, 6¾ In.; Wt., 4 Oz.....each \$2.40
7-Inch, Lgth. Overall, 7¼ In.; Wt., 5 Oz.....each 2.70

No. 21 Crestoloy Round Nose Pliers



Forged tool steel.
Polished head,
gun metal handle.
Sizes 5 and 6 have
box joint.

Size.....inches 4 6
No. 21.....each \$2.00 2.50
Weight, Each.....ounces 2½ 5½

No. 23 Crestoloy Duck Bill Pliers



Extra long jaws; for weavers, jewelers, etc. Made of
special steel. Gun metal handles; polished jaws.
Size, 7 inches. Individually boxed.

No. 23; Weight, per Dozen, 3¾ Pounds.....each \$2.60

No. 1033 Crestoloy Extra Long Nose Chain Pliers



Individually test-
ed. Polished head;
gun metal handles.
Packed one in a
box.

Size, in. 6 7
Each.. \$2.10 2.35

**No. 654 Crestoloy Side Cutting Pliers
Long Nose**



Of forged steel.
Keen edges. Pol-
ished head, gun
metal handles.
Packed 1 in a box.

6-Inch, Lgth. Overall, 6¾ In., Wt. 5 Oz.....each \$2.75
7-Inch, Lgth. Overall, 7¼ In., Wt. 6 Oz.....each 3.10

No. 1034 Crestoloy Long Flat Nose Pliers



For reaching into
tight places and
obtaining a firm
grip.

Size, 6 inches,
gun metal finish

with polished head. Length of nose, 2¼ inches. Packed
1 in a box.

No. 1034, Weight each, 5 ounces.....each \$2.10

No. 942 Crestoloy Diagonal Cutting Pliers

Made of forged steel. Scientifically shaped knurled
handles.



Size Inches	Each	Weight Oz.
4	\$2.10	3
5	2.40	4
6	2.80	6

No. 20 S & H Flat Nose Pliers

Forged from tool steel. Spring tempered nose and handles.

Cross checked
jaws. Polished
head, gun metal
handles.

Packed 1 in a box.

Size.....in. 5

Each..... \$1.80

Wt. Ea....oz. 4½

No. 22 S&H Chain Nose Pliers

Forged tool steel. Spring tempered nose and handles.

Polished head, gun-
metal handles.

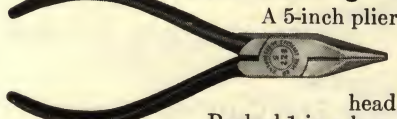
Packed 1 in a box.

Size.....in. 5

Each..... \$2.00

Wt. Ea....oz. 4½

**No. 622 S. & H. Light Chain Nose
Side Cutting Pliers**



A 5-inch plier, light in weight and
perfectly balanced
with tested cutting
edges. Polished
head, gun metal handles.

No. 622, Weight 4 Ounces.....each \$2.35

No. 201 Klein Side Cutting Pliers



For use on bare
and insulated wire.
Curved handles.
Powerful leverage
and keen cutting
knives.

No.....	201-5	201-6	201-7	201-8	201-9
No. 201 each	\$3.25	3.50	3.75	4.50	4.75
Size...inches	5	6	7	8	9

No. 201 Klein Side Cutting Pliers

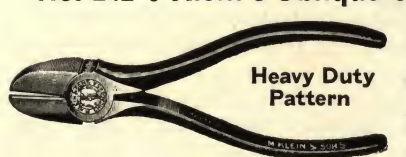
N. E. Type



Nose and all
edges rounded and
shoulder of head
removed.

No.....	201-5NE	201-6NE	201-7NE	201-8NE	201-9NE
Each.....	\$3.25	3.50	3.75	4.50	4.75
Size.....in.	5	6	7	8	9
Wt., Doz.lb.	3	5¼	7¼	11¼	13½

No. 242-6 Klein's Oblique Cutting Pliers



For use where it is
not necessary to
reach into confined
spaces.

Polished head,
handles blued.

Size, 6 inches,
Packed 6 in box.

No.242-6, Weight per Dozen, 4¼ Pounds.....each \$3.10

No. 202 Klein Oblique Cutting Pliers



Lap joint type. Cuts close. The narrow head permits its use in confined places.

No.	Each	Size In.
202-5	\$2.85	5
202-6	2.90	6

No. 203 Klein Long Nose Side Cutting Pliers
With Cutting Knives



For stripping insulated wire ends. Point, $\frac{3}{32}$ -inch round. *Extra long nose, $2\frac{3}{4}$ in.

No. 203-5, 5-Inch Size; Wt. per Doz., $3\frac{1}{4}$ Lb...	each	\$3.00
No. 203-6, 6-Inch Size; Wt. per Doz., $3\frac{3}{4}$ Lb...	each	3.15
*No. 203-7, 7-Inch Size; Wt. per Doz., $4\frac{1}{4}$ Lb...	each	3.30

No. 301 Klein's Long Nose Pliers

Without Cutters



For stripping insulated wire ends. Point, $\frac{3}{32}$ inch round. *Extra long nose, $2\frac{3}{4}$ in.

No. 301-5, 5-Inch Size; Wt. per Doz., $3\frac{1}{4}$ Lb...	each	\$2.55
No. 301-6, 6-Inch Size; Wt. per Doz., $3\frac{3}{4}$ Lb...	each	2.60
*No. 301-7, 7-Inch Size; Wt. per Doz., $4\frac{1}{4}$ Lb...	each	2.85

No. 303-6 Klein's Long Needle Nose Pliers



Long nose permits use in confined spaces. Has polished head and handles tempered blue.

Weight per dozen, $3\frac{3}{4}$ pounds.	
No. 303-6, Length, 6 Inches.....	each \$2.60

No. 72 Crestology End Cutting Nippers



Forged crestology steel. Polished head. Smooth gun metal handles. Packed in a box.

Width of Cutting Edge.....	inches	$1\frac{1}{16}$	$1\frac{5}{32}$
No. 72.....	each	\$2.55	2.95
Length.....	inches	6	7
Weight.....	ounces	9	12

No. 102 Bernard Cutting Pliers

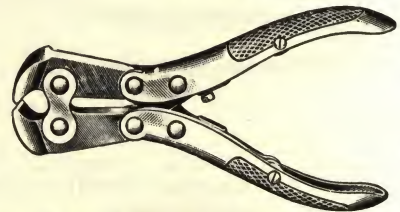
Gorilla Grip



Made of heat treated nickel molybdenum alloy steel. Dual fulcrum construction, parallel jaws, projecting cutters, open throat. Full nickel-plated.

Length.....	inches	$4\frac{1}{2}$	$5\frac{1}{2}$	$6\frac{1}{2}$	8
No. 102.....	each	\$2.25	2.75	3.25	4.00
Weight per $\frac{1}{2}$ Dozen.....	lb.	$1\frac{5}{8}$	$2\frac{5}{8}$	$3\frac{3}{8}$	$6\frac{3}{8}$

No. 125 Bernard Spring Action End Cutting Nippers

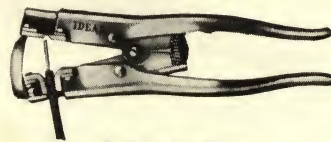


A self opening spring action tool equipped with twin tension springs, interchangeable and accessible; multiple leverage construction; open throat; knurled handles. Has polished nickel finish.

Length.....	inches	6	7
No. 125.....	each	\$3.50	4.00
Capacity Wire.....	inches	$\frac{9}{64}$	$\frac{5}{32}$

Ideal E-Z Wire Strippers

All-Steel—for Stranded and Solid Wire



Automatic Type

For stripping and cutting fixture and building wire. In automatic and standard types. Clamps wire, cuts insulation and then strips it. Automatic type has lever for automatically

stopping return of arms until wire is removed. This prevents snap-back of blades and jaws and completely eliminates crushing of stranded wire.

Wire sizes stamped below stripping holes assure easy identification.

Portion of cutting blade serves as wire cutter; cutter edges shielded. V-notches on blades align stripping holes to prevent cutting or scoring wire. Blades are hardened and ground and are replaceable.

Stripper length, $7\frac{1}{2}$ inches.

Standard type is same as automatic type, except that it does not have lever to stop return of arms after stripping. Especially designed for stripping solid wire, it may also be used on stranded wire.

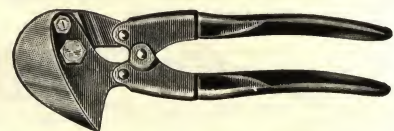
Packed individually in cardboard box. Shipping weight, 14 ounces.

Automatic		Standard		Wire Gage Nos.	No. of Holes
No.	Each	No.	Each		
45-029	\$5.25	45-024	\$4.40	20 to 30	6
45-030	5.25	45-025	4.40	12 to 18	3
45-031	5.25	45-026	4.40	10 to 16	3
45-032	5.25	45-027	4.40	8 to 14	2
45-046	5.25	45-045	4.40	16 to 22	4
*45-078	5.25	.....	.....	10 to 22	6

Replacement Blades for Automatic and Standard Models.....per pair \$1.10

*No cutting edge.

No. 6T Porter Handklip Shear Cutters



Used by receiving and shipping departments for cutting steel strappings, wire stays and box wiring.

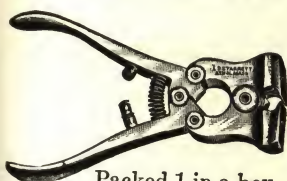
Pointed end of the top cutting jaw is especially designed to easily hook under tight strapping or wire, making a quick, clean cut without damaging the contents of carton or crate. Simple adjustment keeps the jaws at exactly the correct tension for perfect cutting at all times.

Capacities for cutting wire up to $\frac{3}{16}$ -inch; steel strapping .035 x $1\frac{1}{4}$ inches.

Length, 9 inches. Weight, 14 ounces.

No. 6T.....	each	\$5.80
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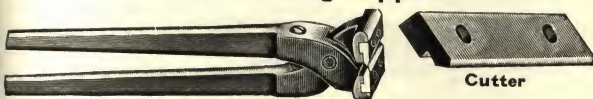
No. 1 Starrett Cutting Nippers



Head and handles of drop-forged steel. Adjustable jaws of high grade steel. All parts casehardened except jaws.
Size.....inches 5½ 7
No. 1.....each \$7.00 \$8.00
Extra Jaws...pr. 1.00 1.00
Screw...per doz. 1.20 1.20
Splines...per doz. 1.20 1.20

Packed 1 in a box.

Todd Cutting Nippers



Cutter

Cutters are made of best tool steel and are interchangeable.

Heavy Cutting Nippers

No.	1	3	4	6
Each.....	\$5.30	4.30	3.70	3.30
Length.....inches	12	10	8	6

No. 0 Extra Heavy Cutting Nippers

Length, 15 inches.

No. 0.....each \$6.90

Cutters

No.	0	1	3	4	6
Per Pair.....	\$1.90	1.70	1.60	1.50	1.40

Carews Patent Wire Cutters



For every type of wire cutting work. Used by many industrial plants and public utilities. Handles are drop forged from high grade steel. Cutting jaws can be removed for re-grinding. Jaws are made of high carbon tool steel alloy, heat-treated and hardened. Has adjustable stop-screw.

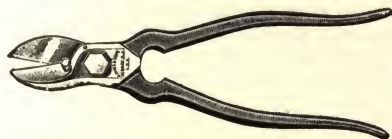
Can be supplied with jaws for cutting music wire and wire that has been specially hardened, without extra cost.

Packed 1 in a package.

Length.....inches	8	10	12	14
Each.....	\$6.00	\$6.65	\$7.75	\$9.25
Extra Jaws.....per pair	1.85	1.95	2.05	2.20
Jaw Opening.....inches	1¼	5/16	3/8	7/16
Weight.....pounds	1½	2	2½	3¾

No. BX-1 Wiss B-X Cutters

For B-X and Armored Cable



Used for cutting and slotting metal molding; cutting wire and metal lath around switches; trimming metal ceiling around boxes; cutting all thin metal like a tin snip; cutting copper cable up to No. 6; trimming brass switch plates; cutting and splitting loom; and cutting heavy duty portable cords.

Made from Wiss cutlery steel.

Furnished with insulation crusher, which parts rubber insulation from wire so that rubber slides off easily after cutting with notch, a scraper edge for brightening wire, and circular form in handle for crimping B-X and armored cable down upon fiber bushing.

Overall length, 7 inches.

Packed 1 dozen in a box. Weight per dozen, 4½ pounds.

No. BX-1, Plain.....each \$3.50

No. BX-1, with Notch.....each 3.75

Furnished without notch unless otherwise specified.

No. 1936 Crescent Fence Tools



The two specially shaped openings in the head grip staples. Width of head gives ample leverage for removing staples gripped by these openings.

Length of handles gives ample leverage so that an extra strong hand grip is not needed. Grip between the handles holds wire tightly while leverage is exerted against fence post to stretch the wire tightly before fastening.

The sharp, heavy prong is designed to be driven in behind staples and pull them out.

Two buttons type cutters. Length, 10½ inches.

Gun metal finish with polished head.

Packed 1 in a box. Weight, 1½ pound.

No. 1936.....each \$2.95

No. 282 Crescent Carpenter's Pincers



Made of special steel, accurately machined and hardened. Sharp edges will cut close to flat surfaces. Button cutter near the rivet used for other types of cutting.

Tack claw at the end of one handle and a screwdriver, point on the other.

Polished jaws, parkerized handles.

Packed in individual boxes.

Size.....inches	6	8	10
No. 282.....each	\$1.50	1.70	2.00
Weight.....ounces	6½	13½	18½

No. 210 Red Devil Glass Pliers



This plier will work on any thickness of glass up to and including ½-inch.

The flat upper jaw supports the top surface of the glass, while the humped lower jaw, developing powerful leverage under slight pressure from the handles, cleanly severs the glass to the line cut.

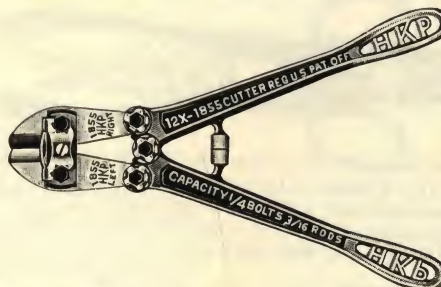
Length, 8½ inches. Full polished.

Packed 1 in a carton, 6 in a box.

Weight, per dozen, 12 pounds.

No. 210.....each \$6.00

No. 12 Porter Bolt Cutters



Capacity up to ¼-in. soft bolts in the thread, 3/16-in. soft rods. Stops have rubber buffers. Length, 12 inches.

No. 12, Approx. Weight, 1½ Pounds.....each \$5.40

Jaws.....per pair 3.50

Cutter-Head.....each 4.10

Porter Carbide-Edged Cutters



For cutting extremely hard materials, as stainless steel rods, wires, pins, etc. **Carbide** edges firmly brazed to cutting jaws.

No.	3CE	4CE
Complete.....each	\$34.50	\$40.50
Carbide-Edged Cutterhead.....each	26.70	28.80
Jaws Only.....per pair	25.40	26.80
Approx. Tool Length.....inches	36	42
Cap. Hard Steel Diam.....inches	$\frac{5}{16}$	$\frac{3}{8}$
Approx. Weight.....pounds	14 $\frac{3}{4}$	17 $\frac{3}{4}$

Porter Rigid and Swivel Type Bolt Clippers End Cut



A close-cutting tool with cutting edges at right angles to handles. For trimming bolt ends, structural work, etc. Especially convenient for cutting directly overhead.

No.	Rigid Type Each	Swivel Type Each	Complete Cutter-heads Each	Jaws per Pair	APPROX. LENGTHS TOOL, IN.	CAP., IN. Soft Bolts in Thrd.	APPROX. WEIGHT POUNDS Rigid Swivel
14E	\$10.40	.....	\$6.90	\$6.00	14 ..	$\frac{5}{16}$ $\frac{1}{4}$	3 ..
1E	13.90	*\$16.70	9.10	8.00	24 25	$\frac{1}{16}$ $\frac{3}{8}$	6 $\frac{7}{8}$ 7 $\frac{7}{8}$
3E	23.20	.....	14.50	13.00	36 ..	$\frac{5}{8}$ $\frac{9}{16}$	14 $\frac{5}{8}$...

*No. 1SH-E.

Porter Rigid and Swivel Type Bolt Clippers Angular (Diagonal) Cutters



For close cutting against large surfaces such as floors, walls, ceilings; especially suited for cutting concrete form wires; used for trimming splice ends in wire rope.

Handles at 30-degree angle to cutting edges of jaws.

No.	Rigid Type Each	Swivel Type Each	Complete Cutter-heads Each	Jaws per Pair	APPROX. LENGTHS TOOL, IN.	CAP., IN. Soft Bolts in Thrd.	APPROX. WEIGHT POUNDS Rigid Swivel
14A	\$10.40	.....	\$6.90	\$6.00	14 ..	$\frac{5}{16}$ $\frac{1}{4}$	3 $\frac{1}{8}$..
1A	13.90	*\$16.70	9.10	8.00	24 25	$\frac{1}{16}$ $\frac{3}{8}$	7 8 $\frac{1}{8}$
3A	23.20	.....	14.50	13.00	36 ..	$\frac{5}{8}$ $\frac{9}{16}$	15 ...

*No. 1SH-A.

Porter Shear Cutters



For cutting soft wire rope and cable, strip or flat bar stock. Cutting edges of jaws pass each other in the manner of scissors, making a complete shear cut.

Not recommended for cutting rods, wire or bolts.

Available only in rigid type.

No.	Complete Tool Each	Complete Cutter-Heads Each	Jaws per Pair	APPROX. LENGTHS TOOL, IN.	CAP., IN. Soft Wire Rope Tool Rope & Strapped In. Cable Guy Wire	APPROX. WEIGHT POUNDS Soft Bars	Wt. Lb.
1T	\$17.70	\$13.20	\$12.40	24	$\frac{1}{16}$ $\frac{5}{16}$	1 $\frac{1}{4}$ x $\frac{3}{32}$	6 $\frac{1}{4}$
3T	24.40	16.90	15.90	36	$\frac{5}{8}$ $\frac{1}{2}$	1 $\frac{1}{2}$ x $\frac{3}{32}$	13 $\frac{1}{2}$

Porter Clipper Cut Bolt Clippers Rigid or Swivel Type



Rigid Type



Swivel Type

Rigid Type. For close cutting of all soft bolts and screws, rods, wire, etc. Not for material in excess of 200 Brinell hardness or 15 Rockwell C Scale. Cutting edges are in line with handles and beveled almost entirely from one side. Permits flush cutting of projecting ends.

Swivel Type. Wrist action enables tool to reach around corners and over or under obstructions. Head may be swiveled through 180° arc with full leverage in any position.

No.	Complete Tool Each	*Complete Cutter-head Each	*Jaws Per Pair	Approx. Length Tool Inches	CAP., IN. Soft Bolts in Thrd.	Soft Rods	Approx. Wt. Lb.
14-NE	\$8.90	\$5.50	\$4.70	14	$\frac{5}{16}$	$\frac{1}{4}$	27 $\frac{3}{8}$
0-NE	9.90	6.00	5.10	18	$\frac{3}{8}$	$\frac{5}{16}$	41 $\frac{1}{4}$
1-NE	11.90	7.10	6.00	24	$\frac{7}{16}$	$\frac{3}{8}$	63 $\frac{3}{4}$
2-NE	15.40	8.90	7.90	30	$\frac{9}{16}$	$\frac{1}{2}$	101 $\frac{1}{2}$
3-NE	19.90	11.20	9.90	36	$\frac{5}{8}$	$\frac{9}{16}$	143 $\frac{1}{4}$
4-AR	25.80	13.60	11.60	42	$\frac{3}{4}$	$\frac{5}{8}$	173 $\frac{3}{4}$

Swivel Type

No.	Complete Tool Each	*Complete Cutter-head Each	*Jaws Per Pair	Approx. Length Tool Inches	CAP., IN. Soft Bolts in Thrd.	Soft Rods	Approx. Wt. Lb.
0-SH	\$12.90	\$6.00	\$5.10	19	$\frac{3}{8}$	$\frac{5}{16}$	45 $\frac{5}{8}$
1-SH	14.70	7.10	6.00	25	$\frac{7}{16}$	$\frac{3}{8}$	73 $\frac{3}{4}$
2-SH	18.40	8.90	7.90	31	$\frac{9}{16}$	$\frac{1}{2}$	111 $\frac{1}{2}$

*Same jaws and heads can be used for rigid or swivel.

Porter Rigid and Swivel Type Center Cut Bolt Clippers



Rigid Type

Cutting jaws of rigid type firmly fixed in line with handles and are beveled equally, bringing cutting edge at center of jaw. Recommended where close cutting is not a requirement. Cuts materials up to 300 Brinell hardness.

Swivel type used for same type of work. Ball and socket joints and positioning spring permit swivel type flexible bolt clipper to cut at any angle. Permits ready application of full operating pressure in close quarters. Recommended for building construction.

No.	Complete Tool Each	*Complete Cutter-heads Each	*Jaws per Pair	Approx. Lgth. of Tool In.	CAP., IN. Soft Bolts in Thrd.	Med-ium Hard Rods	Approx. Wt. Lb.
14-CC	\$8.90	\$5.50	\$4.70	14	$\frac{5}{16}$	$\frac{1}{4}$	27 $\frac{3}{8}$
0-CC	9.90	6.00	5.10	18	$\frac{3}{8}$	$\frac{5}{16}$	41 $\frac{1}{4}$
1-CC	11.90	7.10	6.00	24	$\frac{7}{16}$	$\frac{3}{8}$	63 $\frac{3}{4}$
2-CC	15.40	8.90	7.90	30	$\frac{9}{16}$	$\frac{1}{2}$	101 $\frac{1}{2}$
3-CC	19.90	11.20	9.90	36	$\frac{5}{8}$	$\frac{9}{16}$	143 $\frac{1}{4}$
4-CC	25.80	13.60	11.60	42	$\frac{3}{4}$	$\frac{5}{8}$	173 $\frac{3}{4}$

Swivel Type

No.	Complete Tool Each	*Complete Cutter-heads Each	*Jaws per Pair	Approx. Lgth. of Tool In.	CAP., IN. Soft Bolts in Thrd.	Med-ium Hard Rods	Approx. Wt. Lb.
0-SH-CC	\$12.90	\$6.00	\$5.10	19	$\frac{3}{8}$	$\frac{5}{16}$	45 $\frac{5}{8}$
1-SH-CC	14.70	7.10	6.00	25	$\frac{7}{16}$	$\frac{3}{8}$	73 $\frac{3}{4}$
2-SH-CC	18.40	8.90	7.90	31	$\frac{9}{16}$	$\frac{1}{2}$	111 $\frac{1}{2}$

*Same jaws and heads can be used for either rigid or swivel.

Porter Rigid Nut Splitters



End Type



Side Type

For nut splitting only. When the operation is completed, the cutting edges remain separated sufficiently so that no damage is done to the bolt if tool is properly used.

Nut splitters are valuable in dismantling work, especially where the nuts are rusted or have been peened over. These tools cannot be used for clipping bolts or cutting rods or other materials.

Side Nut Splitters

No.	1SS	3SS
Each.....	\$12.90	\$21.20
Comp. Cutter-Heads.....each	8.20	12.60
Jaws.....per pair	7.10	11.30
Approximate Length.....inches	24	36
To Split Nut of Bolt: Rated Cap.....in.	$\frac{3}{8}$	$\frac{5}{8}$
Adjustable to.....in.	$\frac{5}{16}$ & $\frac{1}{4}$	$\frac{9}{16}$ & $\frac{1}{2}$
Weight.....pounds	6 $\frac{5}{8}$	14 $\frac{5}{8}$

End Nut Splitters

No.	14N	1N	3N
Each.....	\$10.90	\$14.70	\$24.40
Comp. Cutter-Heads.....each	7.40	10.00	15.90
Jaws.....per pair	6.60	8.90	14.50
Approximate Length.....inches	14	24	36
To Split Nut of Bolt:			
Rated Capacity.....inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{5}{8}$
Adjustable to.....inches	$\frac{3}{16}$ & $\frac{1}{8}$	$\frac{5}{16}$ & $\frac{1}{4}$	$\frac{9}{16}$ & $\frac{1}{2}$
Weight.....pounds	3	6 $\frac{3}{4}$	14 $\frac{5}{8}$

Porter Rigid Type Chain Cutters



For tire, hoist, load, log, towing, trace chains, etc.

Strong, short-nosed center cut jaws of special temper, designed to cut only one side of a link at a time, avoiding overload on the tool. Available in two types:

For Soft Chain

For cutting all types of chain other than casehardened. Jaws have a sharper cutting edge than hard chain cutters.

No.	1RC	3RC
Each.....	\$13.40	\$21.20
Cutter Heads.....each	8.50	12.60
Jaws.....per pair	7.40	11.30
Length.....inches	24	36
Capacity.....inches	$\frac{3}{8}$	$\frac{9}{16}$
Weight.....pounds	6 $\frac{3}{4}$	14 $\frac{1}{2}$

For Casehardened Chain

Jaws have special rounded cutting edges which crush rather than cut the link. Edges are highly tempered for maximum strength and life under continuous duty.

No.	0HC	1HC	3HC
Each.....	\$11.20	\$13.40	\$21.20
Cutter Heads.....each	7.20	8.50	12.60
Jaws.....per pair	6.30	7.40	11.30
Length.....inches	18	24	36
Capacity.....inches	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{1}{2}$
Weight.....pounds	4 $\frac{1}{4}$	6 $\frac{3}{4}$	14 $\frac{1}{2}$

Bartlett Compound Lever Snips



Made from drop-forged crucible tool steel.

Size.....inches	Stamped	7	8	10	12	14
Each.....	\$4.00	6.00	9.00	12.00	14.00	
Capacity Gage.....	24	22	20	18	18	
Overall Length.....inches	7	8	10 $\frac{1}{2}$	12	14	
Length of Blade.....inches	1 $\frac{1}{2}$	2	2 $\frac{3}{4}$	3 $\frac{1}{2}$	4 $\frac{1}{8}$	
Length of Cut.....inches	1 $\frac{1}{4}$	1 $\frac{5}{8}$	2 $\frac{1}{8}$	2 $\frac{5}{8}$	3 $\frac{1}{4}$	
Weight.....pounds	$\frac{5}{16}$	$\frac{5}{8}$	1 $\frac{5}{32}$	1 $\frac{7}{8}$	2 $\frac{9}{16}$	

No. 30 Bartlett Compound Lever Bench Shears



Right-Hand Cut

Cuts 12 gage steel; arrangement of jaws allow a full sheet to be handled. Cut, 4 $\frac{1}{2}$ inches. Blade, 8 in. Overall length, 33 in. Steel castings. All parts interchangeable. Removable crucible tool steel blades, $\frac{7}{8}$ -inch thick. Blades run full length of jaw, including pivot hole, so that bearing back of this point is on hardened steel. Right-hand cut, unless otherwise specified.

No. 30, Weight, 17 Pounds.....each \$40.00

Crescent Tinner's Snips



Forged of special steel. Blades have keen, strong edge that will retain sharpness. Powerful leverage makes them cut evenly and smoothly. Has polished blades and blue enameled handles.

Packed 1 in a box.

No.	S47	S48	S49	S410	S411	S412	S413	S414
Each....	\$1.80	2.05	2.20	2.50	2.60	3.10	3.90	4.35
Lgth..in.	7	8	9	10	11	12 $\frac{3}{4}$	13 $\frac{7}{8}$	14 $\frac{1}{2}$
Cut...in.	1 $\frac{3}{4}$	1 $\frac{7}{8}$	2	2 $\frac{1}{4}$	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4
Wt...oz.	7	8	9	13	19	25	32	38

Crescent Circular Cutting Snips



Designed specially for cutting out intricate patterns and curves. Cuts smoothly and leaves the metal un bent.

Forged of special steel; blades ground on special machines. Has polished blades and blue enameled handles.

Packed 1 in a box.

No.	T47	T412
Each.....	\$2.40	3.40
Length.....inches	7	12
Cut.....inches	1 $\frac{3}{4}$	3
Shipping Weight.....ounces	7	25

Wiss Regular Tinner's Snips

A piece of fine crucible bar steel is welded to the inside edge of the blades. This gives the Wiss Snip its perfect cutting edge—an edge that will not break or chew the work and is always sharp.



Blades are perfectly shaped, with points made strong and the handles formed so that they will not tire the hand.

Packed 1 in a box.

No.	10	9	8	7	6½
Each	\$4.75	5.25	5.75	6.25	7.00
Full Length	11½ in.	12½	13¾	14¼	15¾
Length Cut	2½ in.	3	3½	4	4½
Weight	1½ pounds	2	2½	3	3½

Wiss Combination Tinner's Snips



These snips will cut curved as well as straight work. Frame is forged from a tough, special forging steel under a powerful hammer. Handles can be hammered, bent and twisted without breaking.

No.	19	18	17
Each	\$5.75	6.25	6.75
Full Length	12½ inches	13¾	14½
Length of Cut	3 inches	3½	4
Weight	1½ pounds	2½	2½

No. 5 Wiss Bulldog Snips



For cutting tough alloys such as monel metal, stainless steel, etc. Also for cutting strap iron bands, etc.

Precision ground inlaid steel blades. Short powerful jaws and long leverage.

Length overall, 17 inches.

Weight, 3½ pounds.

No. 5.....each \$7.75

No. U416 Crescent Heavy Duty Snips



Cuts curves as well as straight lines.

Polished blades. Blue enameled handles.

Lgth. 16¼ in.; cut, 2¾ in.; wt. 4 lb. Packed 1 in a box.

No. U416.....each \$5.90

No. J-7 Wiss Light Metal Snips



For light metal work. Made of fine tool steel. Length, 7 inches; cut, 1¼ inches. Weight per dozen, 3 pounds.

No. J-7, Curved.....each \$2.65
No. J-7, Straight.....each 2.50

No. 9CB Wiss Curved Blade Tinner's Snips



A piece of fine crucible bar steel is welded to inside edge of blades, giving sharp, durable edge.

Blades are well shaped with strong points.

Handles are formed so that they will not tire the hand.

Length cut, 3 inches. Length overall, 12½ inches.

Packed 1 in a box. Weight 2 pounds.

No. 9CB.....each \$7.75

Wiss Metal-Master Compound Action Aviation Snips

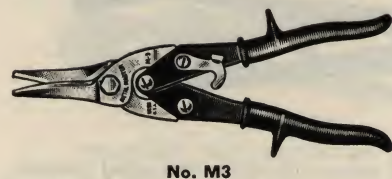
Capacity, up to 18-Gage Sheet Metal



No. M1



No. M2



No. M3



No. M5, Bulldog

Used in aviation, air conditioning, and sheet metal industries.

Compound leverage for cutting power with minimum effort. Cuts circles, squares, intricate patterns, from stainless, Dural and Monel metals up to 18 gage.

Cuts ends of tubing, exhaust manifolds, etc., up to No. 18 gage.

Cutting head drop forged from manganese molybdenum steel. Bolts and nuts of nickel steel to government specifications. All parts interchangeable.

Fine serration on both jaws is standard; deeper serration if specified.

No. M3 is designed primarily for straight cutting, but will cut curves or irregular shapes in either direction.

Nos. M1, M2 and M3 will all cut up to 18 gage.

No. M5 Bulldog will notch or nibble up to No. 16 gage.

For cutting curves, Nos. M1 and M2 are to be preferred to No. M3. Rubber guard grips are extra.

Packed individually. Average weight each, 12 ounces.

No.	Each	Type of Cut	Length Inches	Length Cut Inches
M1	\$4.25	Left.....	10	1¾
M2	4.25	Right.....	10	1¾
M3	4.25	Straight & Combination.....	10	1½
M5	4.25	Bulldog.....	9½	1½

Rubber Guard Grips.....per pair \$6.00

Vulcan Screw Tip Electric Soldering Irons



Display Board

Can be connected to any lighting socket and will operate with identical results on either a.c. or d.c.

Wound for standard voltages as follows: 110-120, 220-240 volts. An extra charge of \$1.00 net is made for special voltages. Specify voltage when ordering.

Each iron is equipped with a handle, a 6-foot approved heater cord and attachment plug cap.

No. 20

For finest instruments, smallest fuses, light telephone repairs, radio, and all very light soldering.

No. 20 is recommended for industrial use.

No.	Complete Each	Extra Tip Each	Heating Head Each	Handle Each	Cord and Plug Each	Equal to Old Style Copper Lb. Tip	Watts per Pair	Old Style Diam. In.	Wt. Oz.
20	\$6.25	\$.40	\$4.65	\$.65	\$.75	50 1	1	7/16	10

No. 30

For radio, and home use, fuses, instruments, inspectors' or linemen's tool kits, etc.

30	\$7.50	\$.55	\$5.70	\$.65	\$.75	60 1 1/2	1/2	12
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No. 40

For telephone switchboards, electrical instruments, light manufacturing, fuses and radio. High speed tool.

40	\$8.50	\$.55	\$6.75	\$.65	\$.75	90 2 1/2	1/2	14
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No. 50

For fast telephone work, art glass, light automobile repairs, light tinware and general home use.

50	\$9.50	\$.90	\$7.55	\$.65	\$.75	130 3 1/2	7/8	18
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No. 60

For light automobile repairs, light tinware, general utility and home use.

60	\$10.75	\$1.20	\$8.35	\$.65	\$.75	175 4 1/2	1	22
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No. 70

For medium tinware, general manufacturing, metal patterns and automobile work.

70	\$12.50	\$1.60	\$9.65	\$.65	\$.75	220 6	1 1/8	28
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No. 80

For heavy tinware, sheet steel work, metal boat making, refrigerator work and automobile radiator work.

80	\$14.50	\$2.00	\$11.20	\$.65	\$.75	310 7 1/2	1 3/8	38
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No. 90

For heavy sheet metal work, large patterns, and all heavy soldering.

90	\$16.50	\$2.60	\$12.65	\$.65	\$.75	430 10	1 5/8	50
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No. 900

For extra heavy soldering.

900	\$29.50	\$4.90	\$23.50	\$.65	\$.75	700 15	1 3/4	84
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Vulcan Electric Branding Irons



Provides permanent identity, quickly, economically, and indelibly. Protects property against loss. Send sketches of desired imprints for estimate.

Vulcan Plug Tip Type Electric Soldering Tools

Listed by Underwriters' Laboratories



No. 35

No. 25 for small fuses, light telephone repairs, radio and all very light soldering.

No. 35 for radio and home use, fuses, instruments, inspectors' or linemen's tool kits, etc.

No. 45 for telephone switchboards, electrical instruments, light manufacturing, fuses and radio apparatus.

No. 453 for high speed soldering for radio, television and electronic assembly and parts.

No. 55 for light automobile repairs, light tinware, general utility and home use.

No. 75 for medium tinware, general manufacturing, metal patterns, automobile work, etc.

Equipped with six-foot approved heater cord with rubber plug cap.

Operates equally well on either a.c. or d.c.

Specify voltage when ordering.

Special voltages, \$1.00 extra.

No.	25	35	45	453	55	75
Complete.....each	\$5.50	\$7.75	\$8.50	\$8.50	\$9.75	\$13.00
Extra Tip.....each	.40	.55	.65	.55	1.20	1.90
Heating Head.....each	3.80	5.85	6.55	6.55	7.35	9.75
Heating Element.....ea.	*2.90	4.40	4.90	4.90	5.30	7.15
Handle.....each	.65	.65	.65	.65	.65	.65
Cord and Plug.....each	.75	.75	.75	.75	.75	.75
Watts.....	50	100	150	150	200	300
Equal to Old Style Copper Pound						

.....per pr.	1	1 1/2	2 1/2	2 1/2	3 1/2	6
Diameter Tip.....inches	1/4	3/8	1/2	3/8	5/8	7/8
Weight.....pounds	5/8	1 1/8	1 1/4	1 1/4	1 5/8	2 3/8

*Replaceable at factory.

Mercury Electric Soldering Irons

110 to 120 Volts—A.C. or D.C.



No. 4

For light and medium work. Intended for intermittent duty. Pure copper tips are removable. Elements are replaceable.

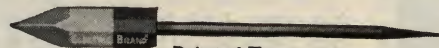
Cool, adjustable handle.

Equipped with a 6-foot cord and plug cap.

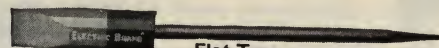
Listed by the Underwriters' Laboratories.

No.	4	5	6
Complete.....each	\$2.60	\$3.85	\$4.60
Tip Only.....each	.80	1.25	1.35
Heating Element Only.....each	1.05	2.00	2.50
Watts.....	80	100	150
Tip Diameter.....inches	1/2	3/8	7/8
Weight.....ounces	9	14	18

Electric Brand Forged Soldering Coppers



Pointed Type



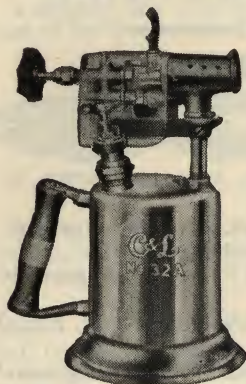
Flat Type

Extra over Base—Per Pound

	Base
16 Pounds per Pair.....	Base
12 Pounds per Pair.....	Base
10 Pounds per Pair.....	Base
8 Pounds per Pair.....	Base
6 Pounds per Pair.....	Base
5 Pounds per Pair.....	Base
4 Pounds per Pair.....	\$.02
3 Pounds per Pair.....	.03
2 Pounds per Pair.....	.05
1 1/2 Pounds per Pair.....	.28
1 Pounds per Pair.....	.30

C&L Mechanic's Standard Blowtorches

No. 32A is for leaded gasoline or kerosene; No. 238 is for gasoline only.



Powerful steady blue flame 7 inches long; can be reduced for light work. Burner has blunt control needle. Generator, weather protected with full skirted heavy windshield securely fastened. Heavy gage polished brass tank. Bottom filled. Automatic pump.

Regularly supplied for burning gasoline. Kerosene may be used by changing jet block and cleaner pin. Specify when ordering.

No.	32A	238
Each	\$18.30	13.60
Capacity	1 Qt.	1 Pt.
Ship. Weight	5 lb.	4 1/4 lb.

No. 144A C & L Mechanic's Blowtorches

1-Quart Capacity—For Gasoline



Equipped with a medium size mechanic's grade burner. Made with blunt control needle making orifice enlargement impossible. Removable jet block and detachable cleaner pin.

Produces an intense, steady blue flame for ordinary work. Flame is smoothly regulated from high to low. Generator veins protected by a full-skirted windshield. Bottom filled. Automatic pump with lock-down plunger.

Shipping weight, 4 3/4 pounds.

No. 144A.....each \$13.50

C & L Gasoline Blowtorches



No. 600A

Designed for odd jobs.

Burner is made with a back-flow generator and has tapered burner tube closed at the back.

Burns leaded or white gasoline.

Produces an intensely hot, good size, blue flame.

Burner has blunt control needle, removable orifice and detachable cleaner pin to prevent orifice enlargement. Bottom filled. Automatic pump with lock-down plunger.

No.	600A	700A
Each	\$11.40	11.40
Capacity	1-Qt.	1-Pt.
Shipping Weight	4 1/2 pounds	3 3/4

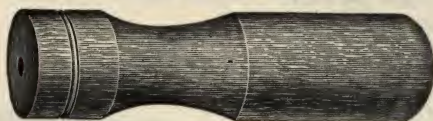
C&L Paint Burning Nozzles



Can be easily applied to C&L Torches, Nos. 144A, 158A, 600A, 800-quart size, and Nos. 160A or 700A pint size to produce a flat fan-shaped flame 3 to 3 1/2 inches wide for burning paint. This nozzle fits into the end of the burner tube of the regular torch.

Will produce either horizontal or vertical fan-shaped flame. Each.....\$1.80

Soldering Copper Handles

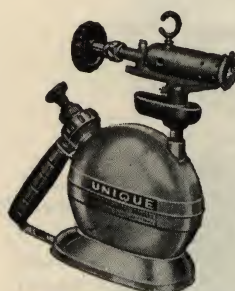


Soft wood and wired. Size about 1 1/4 x 5 1/2 inches.

Per Gross.....

No. 0 Unique Gasoline Blow Torches

1-Pint Capacity



A compact torch for the tool kit; for use in places hard to get at. Produces an intense heat of 1900°F. Burns in any position. Fine flame control. Closing fuel valve forces the steel cleaning needle through orifice, clearing it of foreign particles. The needle, threaded orifice block and all other parts are replaceable. Channels fitted with removable threaded plugs for cleaning.

Steel tank, brazed fittings, and welded construction for safety. Top filler opening. Oval tank is 2 3/4 inches through center; 5-inch circle. Size flame, 1x6 inches. Weight, 3 pounds. Generator wind-shield included.

No. 0.....each

No. 1 Unique Gasoline Blow Torches

1-Quart Capacity

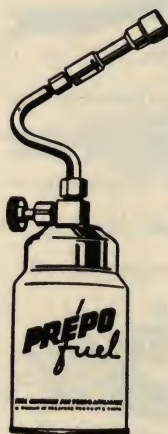


A medium, small flame torch. Produces an intense heat of 1900°F. plus. Burns in any position. Fine flame control. Closing fuel valve forces steel cleaning needle through the orifice, clearing it of foreign particles. Cleaning needle, orifice block and all parts replaceable at small cost. Channels are fitted with removable threaded plugs for cleaning.

Steel tank, powerful pump, brazed fittings, and welded bottom for safety. Filled through bottom funnel filler. Size flame, 1x6 inches. Weight, 3 3/4 pounds.

No. 1.....each

Series 600 Prepo Fuel and Torches



May be used in any position.

Clean, odorless heat; no pumping; no priming of liquid. Finger tip flame control; fully automatic. Tips are interchangeable. Full flame. Burning time with wide open valve at full flame from 1 1/2 to over 4 1/2 hours; longer with smaller flame. Torch is instant lighting and gives full heat at once over 2200°F.

Size, 4x10 1/2 inches; fits in tool box.

Weight, 1 1/4 pounds.

No. 615, Heavy-Duty Burner, for Great Heat Volume.....each \$4.45

No. 613, Utility Burner, for General Purpose Work.....each 2.00

No. 612, Pin Point Burner, for Precision Work.....each 2.95

No. 620, Paint Remover Tip.....each 1.25

No. 621, Diamond Point Solder Tip.....each 1.95

No. 622, Chisel Point Solder Tip.....each 1.95

No. 690 Prepo Fuel Tanks

A constant, self-pressurizing fuel containing petroleum hydrocarbons, non-poisonous and non-toxic.

Packed in throw-away fuel containers.

No. 690, Weight, 12 Ounces.....each \$7.79

No. 600 Prepo Torch Base Kits

Consists of torch base and tank of fuel; no burner.

No. 600, Weight, 1 1/16 Pounds.....each \$5.50

No. 601 Prepo Standard Torch Kits

Consists of torch base with No. 613 utility burner and tank of fuel.

No. 601, Weight, 1 1/16 Pounds.....each \$7.50

No. 605 Prepo Master Torch Kits

Consists of No. 606 professional torch base; one each heavy-duty, pin point and utility burner; one each paint remover, diamond point and chisel point solder tip; one tank of fuel. Packed in all-metal fitted carrying case.

No. 605, Weight, 5 Pounds.....each \$19.95

No. 30 Lenk Champion Automatic Alcohol Blotorches



Used by electricians, mechanics, radio and automobile workers, plumbers, etc. Blast, 1800°F. Torch blows itself and starts in 20 seconds. No adjustments necessary.

Capacity approximately $\frac{3}{4}$ pint. Will operate about three hours on one filling of alcohol.

A cleaning pin is kept in convenient side filler plug.

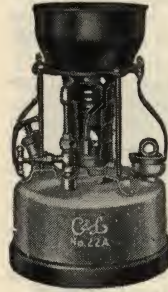
Sturdily constructed of heavy gage, highly polished brass.

Size overall, 7x3 $\frac{1}{4}$ inches. Tank is 2 inches in diameter. Packed 1 in a carton.

Weight, 12 ounces.

No. 30.....each \$5.00

No. 22A C & L Coil Fire Pots 1-Gallon Capacity—For Gasoline or Kerosene



A favorite with the plumbing trade. Equipped with quick detachable coil unit. Easy to start and simple to operate, burns in any kind of weather conditions. It generates a large powerful blast flame which quickly melts a pot of solder or babbitt.

Has broad base, sturdy uprights, sets low and is designed to handle a 6-inch metal pot. Filler plug made with dust cap to cover filling funnel.

Regularly supplied for burning gasoline. Kerosene may be used by changing burner jet. **Specify** if kerosene is to be used.

Shipping weight, 14 pounds.

No. 22A.....each \$22.60

No. 50 Unique Heavy Duty Gasoline Public Utility Furnace



With Style A Hood

Melts 50 pounds of solder in 10 minutes. Flame, 2000°F, $\frac{1}{2}$ x12-inch length. Extra fine flame control which holds steady without change.

Generator is made of bronze alloy casting, fitted with replaceable orifice block and removable channel plugs.

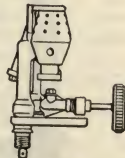
Tank is made of heavy steel, welded throughout.

Top-Plate has ample support for large kettles and solder pots up to 8-inch size. Handle locks to support solder iron.

Hood. Style A is standard and has open top. Style B hood (for solder irons) may be substituted and accommodates irons up to 12 pounds per pair. Heating time, 4 minutes. Style A hood is furnished as standard.

Tank capacity, 1 $\frac{1}{8}$ gallons. Dimensions, 9 $\frac{1}{2}$ x13 inches.

No. 50, Weight 15 Pounds.....each



No. 50 Generator

Unique Gasoline Plumbers' Fire Pots



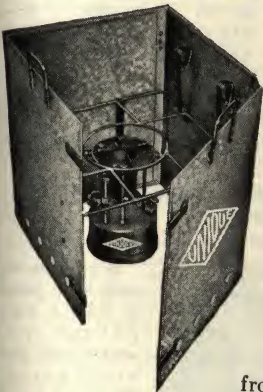
A high grade furnace which can be easily changed to heavy duty torch. The 10-inch flame melts 20 pounds of lead in 7 minutes and 40 pounds in 10 minutes. Fine flame control keeps molten lead at right temperature. Prevents dross and saves fuel. Economical, burns 4 to 6 hours per gallon.

Generator is a seamless steel U-tube encased in a casting and protected so that the tube cannot scale or burn away. Welded steel tank has powerful pump, funnel filler and bottom shock ring. Furnace height, 12 in. Weight, 12 pounds.

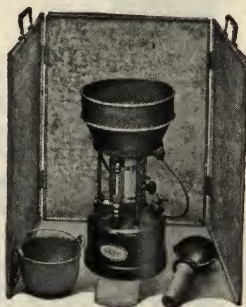
No. 43, For Pots Up to 6 Inches Diameter.....each \$.....

No. 43A, For Pots Up to 8 Inches Diameter.....each

Unique Safety Folding Shields For Furnaces and Firepots



No. 50



No. 50-C

Protects workers and by-standers from hot materials and shields furnace from wind. Affords a protective spot for tools and accessories.

Galvanized iron with edges rolled around $\frac{1}{4}$ -inch rod. Rust proofed. No sharp corners. Folds flat for carrying and storing.

No. 50 is a four-panel shield with welded steel grate and supporting brackets for large pots and kettles. Grate hooks on bracket to hold shield in open position.

No. 50-C is a three-panel shield without grate

No. 50 Weight, 15 pounds.....each \$.....

No. 50-C Weight, 27 pounds.....each

No. 55 Unique Heavy Duty Utility Kerosene Furnaces

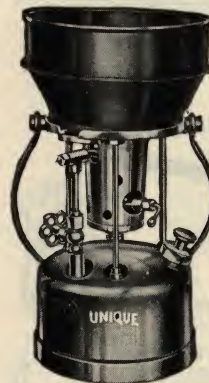


Figure 8 generator burns kerosene without carbon formation, producing a clean flame of 2000°F.

Melts 50 lb. of solder in 10 min. with powerful blast flame.

Starts on kerosene in 4 minutes.

Tank made of heavy steel and copper-brazed into a one-piece unit. Powerful, dependable pump. Self-cleaning. Regulation of flame volume valve for full or reduced flame automatically passes scraper blades under orifice, clearing it of foreign particles.

Rugged top plate, with ample lug support for solder pots up to 8 inches in diameter.

Style A open top hood as shown. Style B soldering iron hood, substituted if specified, accommodates irons up to 12 pounds per pair. Heating time 4 minutes.

Tank capacity, 1 gallon. Dimensions 8x13 inches.

No. 55, Weight, 13 Pounds.....each

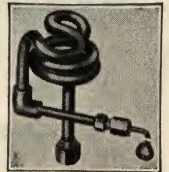
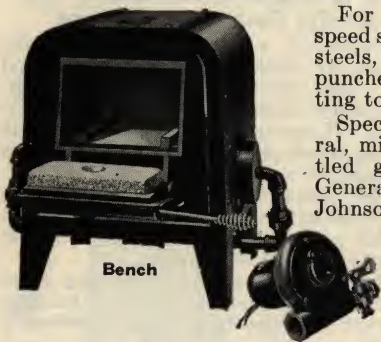


Figure 8 Generator and Orifice Scraper

No. 70 Johnson Gas Heat-Treated Furnaces



For heat-treating high speed steels and high carbon steels, and for hardening punches, dies, parts and cutting tools.

Specify whether for natural, mixed, artificial or bottled gas. Equipped with General Electric motor and Johnson blower. Air and gas mixture is easily regulated to give scale-free hardening of all types of steel. Pyrex glass in front door.

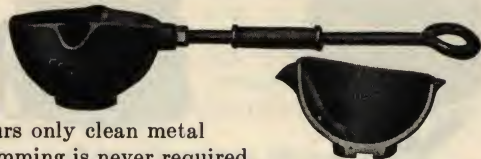
Firebox is 7 $\frac{3}{4}$ inches wide, 9 inches long, and 5 inches high, and is heavily lined with insulating refractory. Carborundum hearth is 6 inches wide and 8 $\frac{1}{2}$ inches long.

Max. input, 70,000 Btu's. Required to hold, 45,000 Btu's.

		Bench	Pedestal
No. 70.....	each	\$110.00	135.00
Width.....	inches	18 $\frac{1}{4}$	18 $\frac{1}{4}$
Length.....	inches	16 $\frac{1}{2}$	16 $\frac{1}{2}$
Height.....	inches	17 $\frac{3}{4}$	50 $\frac{1}{8}$
Shipping Weight.....	pounds	155	240

Rowell Bottom Pour Melting Ladles

Listed by Underwriters' Laboratories



Pours only clean metal
Skimming is never required.

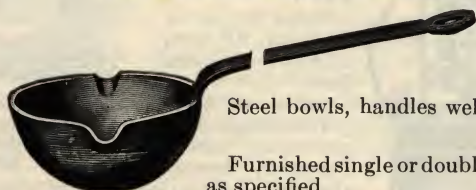
Made of alloy grey iron.

Sliding sleeve furnished on all sizes except 3-inch.

Diam. Bowl In.	Each	Cap. Lead Lb.	Cap. Water Pt.	Depth Bowl In.	Diam. Hdle. In.	Lgth. Hdle. In.	Lgth. Over-all In.	Comp. Wt. Lb.	Bowl Wt. Lb.
3	\$2.30	4	3 $\frac{1}{8}$	2 $\frac{1}{4}$	3 $\frac{1}{8}$	12 $\frac{1}{2}$	15 $\frac{1}{2}$	2	....
4	2.85	4 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3 $\frac{1}{8}$	16	20	3	1 $\frac{3}{4}$
5	3.25	9	1	2 $\frac{1}{2}$	3 $\frac{1}{8}$	24	31	5	3 $\frac{1}{2}$
6	4.30	18	2	3	3 $\frac{1}{8}$	29	35	8 $\frac{1}{2}$	4
7	4.70	25	3	4 $\frac{1}{2}$	3 $\frac{1}{8}$	29	36	9	6
8	5.30	40	4	4 $\frac{1}{2}$	3 $\frac{1}{8}$	29	37	13	9
*9	6.15	60	7	5	3 $\frac{1}{4}$	29	38	18	13
*10	7.30	90	9	5 $\frac{1}{4}$	3 $\frac{1}{4}$	29	39	20	15

*Can be furnished with two handles at an additional cost of \$1.45.

No. 373 Plumbers' Ladles



Steel bowls, handles welded on.

Furnished single or double lipped as specified.

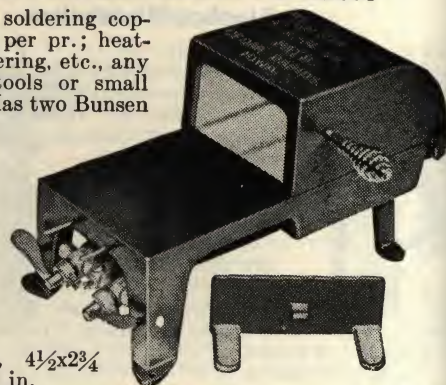
Regular					Extra Heavy				
Thick. In.	Lgth. Bowl In.	Size Steel in.	Lead Cap. Lb.	Wt. Lb.	Thick. In.	Lgth. Bowl In.	Size Steel in.	Lead Cap. Lb.	Wt. Lb.
2 $\frac{1}{2}$	14	11 $\frac{1}{2}$	1 $\frac{1}{2}$ x $\frac{3}{16}$	11 $\frac{1}{4}$	6 $\frac{1}{2}$	24	1x $\frac{1}{4}$	14 $\frac{1}{4}$	49
3	13	11 $\frac{1}{2}$	1 $\frac{1}{2}$ x $\frac{3}{16}$	21 $\frac{1}{4}$	8	29	1 $\frac{1}{4}$ x $\frac{3}{8}$	21	88
3 $\frac{1}{2}$	13	16	5 $\frac{1}{8}$ x $\frac{3}{16}$	3	11 $\frac{1}{2}$	29 $\frac{1}{2}$	1 $\frac{1}{4}$ x $\frac{3}{8}$	27 $\frac{1}{2}$	95
4	13	16	5 $\frac{1}{8}$ x $\frac{3}{16}$	4 $\frac{1}{4}$	13	36	1 $\frac{1}{4}$ x $\frac{3}{8}$	40	126
5	11	20 $\frac{1}{2}$	1x $\frac{1}{4}$	10 $\frac{1}{4}$	31	37	1 $\frac{1}{2}$ x $\frac{3}{8}$	50	150
6	11	20 $\frac{1}{2}$	1x $\frac{1}{4}$	14 $\frac{1}{4}$	37	....	....	....	....

No. 101 Johnson Bench Furnaces

For heating soldering copers to 12 lb. per pr.; heat-treating, tempering, etc., any carbon steel tools or small metal parts. Has two Bunsen burners, each with shut-off valve, pilot-light; work rest block; baffle plate. Gas consumed, 13000 Btu. per hr. per burner.

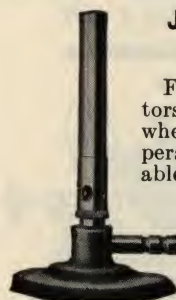
Firepot open., 4 $\frac{1}{2}$ x2 $\frac{3}{4}$ in. Length, 14 in.

No. 101; Firebox, 3 $\frac{3}{4}$ x4 $\frac{1}{2}$ x5 $\frac{1}{2}$ In.; Wt., 18 Lb....ea. \$18.80



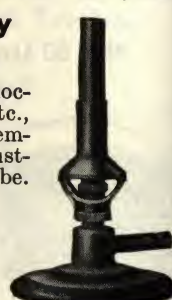
Johnson Laboratory Bunsen Burners

For any laboratory use, doctors, dentists, students, etc., where a small, high flame temperature is required. Adjustable gas orifices and burner tube.



No. 10

Height 5 inches.



No. 4, Junior

No.	10	4 Jr.
Each.....	\$1.95	3.30
Diameter Base.....	inches 3	4
Gas Consumed per Hour.....	Btu. 5000	6000

No. 153 Cast Iron Melting Pots

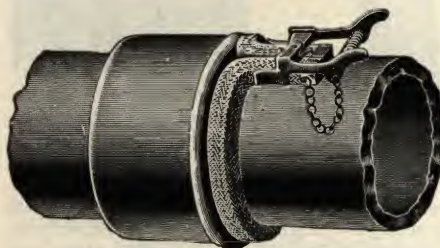
For Lead, Solder or Babbitt



O. D. In.	Each	Outside Height In.	Capacity Liquid Qts.	Lead Lbs.	Wt. Lbs.
4	\$1.04	3	3 $\frac{1}{8}$	8 $\frac{1}{2}$	11 $\frac{1}{2}$
5	1.20	3 $\frac{3}{8}$	3 $\frac{1}{4}$	16	21 $\frac{1}{2}$
6	1.56	4	1	24	31 $\frac{1}{2}$
7	2.70	4 $\frac{3}{8}$	2	40	5
8	3.48	5	3	70	8
9	6.60	6	4	90	14
10	7.10	6	5	120	16
12	11.00	6 $\frac{1}{2}$	8	200	30
13 $\frac{1}{2}$	12.50	6 $\frac{3}{4}$	10	240	32
15	28.80	10	18	400	60
18	74.40	14	37	900	120

All sizes from 4 to 10-inch diameter are made without lips as shown. Sizes 12 to 18 inches inclusive have a pouring lip on one side and a lifting lug on the other side.

No. 429 Improved Asbestos Lead Joint Runners



A time saver and sure joint maker for plumbers, water and gas companies. Redhot lead does not affect it. Made of solid asbestos.

Size No.	1	2	3	4
No. 429.....	each	....	....	....
Square.....	inches 3 $\frac{1}{4}$	3 $\frac{1}{4}$	1	1
For Pipe.....	inches 2,3,4	4,5,6	6,8,10	10,12,14
Weight.....	pounds 1 $\frac{1}{2}$	3 $\frac{1}{4}$	2 $\frac{1}{4}$	2 $\frac{3}{4}$

Eagle-Picher Dreadnaught Bearing Metal



The most durable bearing metal made. For bearings subject to extreme speed and pressure conditions, pounds, shocks and vibrations; bearings of high powered generators, motors, turbines, Diesel engines, oil, gas and gasoline engines, pumps, air compressors, etc.

Possesses the highest load carrying capacity, and its great toughness enables it to resist heavy pounding without cracking or distortion. Being exceedingly free pouring with but slight shrinkage, it is the ideal alloy for thin bearings. Pours and machines easily and will stand peening.

Tensile strength, 13,050 pounds per square inch; compressive strength, 22,000 pounds per square inch; Brinell hardness, 29.1; melts at 463°F., pouring temperature, 800°F.; specific gravity, 7.35. Prices upon application.

Eagle Outlasta Bearing Metal

For general service bearing requirements where speed and pressure conditions are fairly even or constant.



Particularly appropriate for average to high speed low pressure bearings or for fairly heavy duty bearings under average speed.

This general service bearing metal will safely and efficiently carry an unusually heavy load where bearing liners are 1/4-inch or more in thickness and of liberal area.

Tensile strength, 8,200 pounds per square inch.

Compressive strength, 13,100 pounds per square inch.

Brinell hardness 24.9. Melting point, 464°F. Pouring temperature, 625°F. Specific gravity, 9.42.

Approximate weight of each bar, 3 pounds.

Shipped in packages weighing 100 pounds net.

Per Bar

Magnolia Anti-Friction Metal



Meets all requirements for general use. Has good resistance to compression and has low coefficient of friction. Is graphite treated and largely self-lubricated. Lead base.

Typical applications: line shafting; electric motors, 10 to 250 hp.; winches; pumps; propeller shafts; cement mills; and general machinery.

Physical characteristics: ultimate strength, 18,000 pounds per square inch; yield point, 8,975 pounds per square inch; Brinell hardness, 23; pouring range, 750-825°F.

Packed in 56 and 112-pound boxes.

Beaver Babbitt Metal



A Syracuse Babbitt

Beaver babbitt may be used in nearly every kind of a machine and under nearly every working condition.

Beaver babbitt is one of the family of Syracuse babbitts and is alloyed by the Stanley Process.

Heat at which to pour, 625°F. or 330°C.

Cast in ingots from 3 to 5 pounds each and packed in cases of 55 pounds, 110 pounds, 25 kilos or 50 kilos.

Babbittite

A Retainer for Molten Babbitt Metal

Babbittite is supplanting putty and clay as a retainer for molten babbitt metal while pouring bearings. When used, blowouts are impossible and perfect bearings are assured. Can be used 100 times for babbitting without requiring any preparing or mixing. Will not dry out, harden or absorb moisture, being unaffected by heat. Combines strength of body with quality of adhering closely to the work.



Size numbers indicate approximate weight in pounds of contents of containers.

No. 5 Size Pail.....	per pail	\$2.50
No. 15 Size Drum....	per drum	5.75
No. 30 Size Drum....	per drum	9.75
No. 50 Size Drum....	per drum	15.50

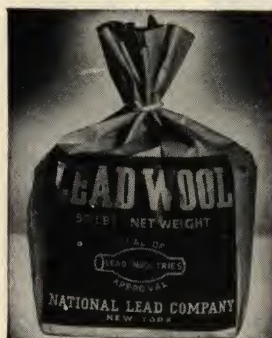
Lead Wool

Lead wool is used in making calked joints on cast iron pipe and in gas and water service.

Lead wool is metallic lead formed into long, uniform fibers loosely twisted into rope. The use of lead wool eliminates the melting pot and permits calking under all atmospheric conditions. Joints made with lead wool are tight and have great flexibility.

Packed in 5 and 50-pound bags and on 100-pound reels; approximately 2 1/2 feet per pound.

Prices upon application.

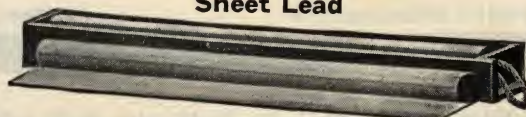


Ingot Lead



Per Pound.....

Sheet Lead



Thickness.....in.	1/64	1/32	3/64	1/25	1/16	1/14	1/12	1/8
Wt. Sq. Ft.....lb.	1 1/2	2	2 1/2	3	4	5	6	8

Market prices.

Allen Stainless Steel Solder

HiLustre (Non-Dulling)

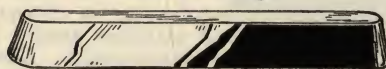
Recommended for use with all work in which appearance, uniformity, and an unbroken high luster is required.

Matches the high finish of stainless steel, and has proven a favorite because it will not dull.

Comes in wire form only.

Furnished in spools of 1 and 5 pounds.

Extra Strong



This grade is fine for most work. Gives a splendid, strong joint or seam on all stainless steel.

Comes in bar or wire form. Bar length, 12 inches.

Weight of bar, 1/2 pound.

Prices upon application.



Kester Acid-Core Solder For General Soldering



Easy to use, saves time, and is dependable for a permanent bond.

Contains a scientifically prepared flux that flows in just the right proportions as the solder melts. Requires only heat.

Standard size, $\frac{1}{8}$ inch, about 25 feet to the pound.

1-Pound Spool.....	each	.....
5-Pound Spool.....	each	.....
20-Pound Spool.....	each	.....

Kester Plastic Rosin-Core Solder For Electrical and Radio Work



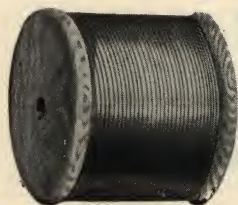
With plastic rosin flux, non-corrosive and electrically non-conductive.

The flux flows, as the solder melts, in just the right amounts for a perfect soldering job.

Requires only heat.

Standard size, $\frac{3}{32}$ inch, about 50 feet to the pound.

Size Spool.....	pounds	1	5	20
Each.....				



Wire Solder

For high-grade work on tin plate, galvanized iron or sheet copper. It flows freely and evenly.

Put up on spools of approximately 1, 5, 10, 25 and 50 pounds each. Prices upon application.

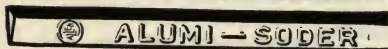
Eagle-Picher Star Solder



Furnished in six grades: 1 star, 60/40; 2 star, 50/50; 3 star, 48/52; 4 star, 45/55; 5 star 42/58; 6 star, 40/60.

Prices upon application.

Allen Aluminum Solder

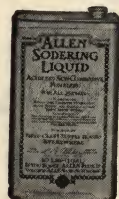


Complete solder & flux combined. Requires only heat to permanently join aluminum to itself or other metals.

Bars and wire, packed 6 pounds to a carton.

1-Pound bulk Bars	per pound	\$2.55
$\frac{1}{4}$ -Pound Triangular Bars	per pound	3.15
$\frac{1}{8}$ -Inch Square Wire.....	per pound	3.40

Allen Soldering Liquid



For all-a-round work, for all metals except aluminum and stainless steel. Standard formula. Non-evaporating. Adaptable to hand, or machine soldering. Excellent for tinning and soldering copper.

Size Can.....	2-Oz.	4-Oz.	1-Qt.	1-Gal.
Per Can.....	\$.13	.20	.65	2.00
No. per Carton	24	12	3	1



Allen Soldering Paste

A corrosion free, soft form of flux.

Carries Underwriters' approval.

Size Can.....	Job Size	2-Oz.	4-Oz.	$\frac{1}{2}$ -Lb.	1-Lb.	5-Lb.
Each.....		\$.08	.13	.25	.50	.90 4.40
No. in Carton....		24	24	24	12	6 1



Allen Soldering Salts

These salts are dry and in concentrated form. To make up a perfect flux of sufficient strength to use on old metal add three parts water to one part salts; on new metal use even greater dilution.

Size Bottle.....	$\frac{1}{2}$ -Lb.	1-Lb.	5-Lb.
Each.....	\$.40	.59	2.70
No. in Carton.....	12	6	1

Allen Soldering Sticks



An economical rapid flux. Just a touch to the hot metal does the work.

Fuses the solder, rapidly without fuss, muss or after corrosion. Size, $1 \times \frac{1}{4}$ inches. Packed 24 to a carton.

Samson Formula.....	each	\$.15
Standard Formula.....	each	.30

Allen Solid Sal Ammoniac

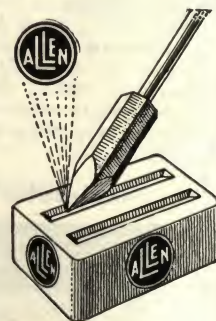
Speedily cleans and brightens the soldering copper. Outlives fibrous lump many times.

It is six sided, solid and convenient.

Does not crumble, nor corrode metal work or tools on the job.

Put up in individual cartons.

Package quantities are packed in corrugated, tape sealed cartons.



Size.....	pounds	$\frac{1}{4}$	$\frac{1}{2}$	1
Each.....		\$.20	.35	\$.60
Package Quantity		24	12	6

Kasnit Surface-Hardening Compound

Non-Poisonous, Non-Explosive
and Non-Inflammable



A rapid compound for surface hardening. May be used with equally good results on all classes of steel, as well as cast, wrought or malleable iron. No special equipment necessary.

Kasnit No. 1

For fine work and very rapid hardening.						
Size Can.....	pounds	1	5	10	*25	*50 *100
No. 1.....	each	\$2.00	9.25	17.40	40.90	80.00 155.00

Kasnit No. 2

For general surface hardening.						
Size Can.....	pounds	5	10	*25	*50	*100
No. 2.....	each	\$7.00	13.00	31.00	60.00	115.00

*Drum.

Johnson's Soldering Fluid



Can be used on all metals and their alloys except aluminum. Will not evaporate, injure work, clothing or hands.

Any grade of solder may be used, also lead, babbitt pewter, zinc or tin.

Bench Bottle.....	each	\$.18
Pint Bottle.....	each	.75
1-Quart Bottle.....	each	1.25
1-Gallon Bottle.....	each	3.50
5-Gallon Can.....	each	15.50

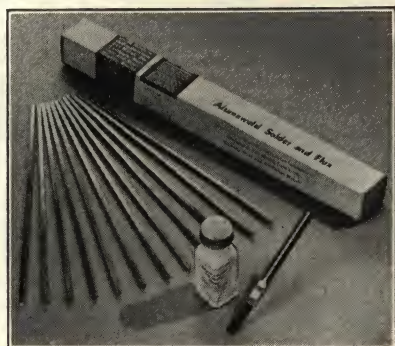


Lloyd's Stainless Steel Flux

For stainless steel, monel, nichrome, inconel, chromium, and molybdenum alloys and other metals except aluminum, magnesium, die-cast, and zinc-coated metals. Adds strength to jobs soldered with all soft solders. Does not crawl or creep on stainless steel. One application sufficient to make solder adhere evenly and flow deep into pores of material. Will not splatter or spray when iron is applied, insuring cleaner work. High capillary action pulls solder into all types of seams, leaving no flux pockets to corrode. Soluble in water, it is easily removed.

Size Bottle...	1/2-Pt.	1-Pt.	1-Qt.	1-Gal.
Each.....	\$.75	1.25	2.00	6.75
No. per Ctn.	24	12	12	4
Weight....lb.	35	30	53	64

Alumaweld All Metal Solder and Flux



A high tensile strength solder used for all types of aluminum and aluminum alloys. Makes possible the soldering of any other metal to aluminum; such as cast iron or white metal.

Solders at 500°F. or about the same heat as required for other solders. Applied with welding torch, blow torch or soldering iron.

Packed in kits containing the right proportion of flux to the solder rods, a flux brush, a wire scratch brush, an abrasive, and complete directions for soldering all metals.

Shop Kit, with 180 Inches of Solder.....	each	\$5.00
Mechanics' Kit, with 120 Inches of Solder.....	each	3.50
Service Kit, with 45 Inches of Solder.....	each	1.75

Bulk Solder

Rods are 3/16-inch square and run 13 rods to the pound.
Per Pound.....\$2.15

Bulk Flux

Size Bottle.....	pounds	1/8	1/4	1/2	1
Each.....		\$.60	1.00	1.80	3.00

Beryllium Copper Safety Tools

Berylco Safety Tools provide substantial insurance against fire loss and damage to life and property from a tool spark. The elimination of this hazard has been the concern of many industries which handle explosive or inflammable products.

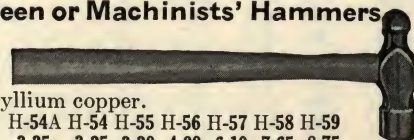
The possibility of reducing this danger through the use of bronze tools has long been recognized, but until the introduction of Beryllium Copper no available non-ferrous alloy combined sufficient hardness, strength and toughness to make safety tools which would stand up in severe service.

The addition of beryllium to copper produces an alloy which can be tempered by heat treatment to strengths comparable to the medium carbon steels.

By carefully controlling the heat treatment, it is possible to obtain the required physical characteristics for many types of hand tools.

Berylco Ball Peen or Machinists' Hammers

Selected Handles

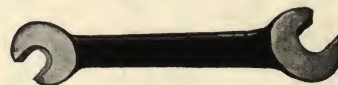


Sparkproof; Beryllium copper.

No.....	H-54B	H-54A	H-54	H-55	H-56	H-57	H-58	H-59
Each.....	\$3.25	3.25	3.25	3.30	4.90	6.10	7.65	8.75
Handle....in.	8 1/2	10 1/2	12	13	14	15	16	16
Weight....lb.	1/4	3/4	3/4	1 1/4	1 1/2	2	2 1/2	3

Berylco Sparkproof Engineers' Wrenches

45° Angle—Double End



Beryllium copper.

No.	Each	U.S.S. Bolt Size Inches	Opening Size Inches	Overall Length Inches	Approx. Weight Pounds
W-259	\$2.90	1/4 x 3/8	1/2 x 1 1/16	5 3/4	.38
W-260	4.50	3/8 x 1/2	1 1/16 x 7/8	7 3/4	.85
W-261	5.15	1/2 x 5/8	7/8 x 1 1/16	9 3/4	1.70
W-262	6.55	5/8 x 3/4	1 1/16 x 1 1/4	11 3/4	2.50
W-263	10.75	3/4 x 7/8	1 1/4 x 1 7/16	13 1/2	2.60
W-264	12.45	7/8 x 1	1 7/16 x 1 5/8	15	4.30
W-265	13.95	1 x 1 1/8	1 5/8 x 1 13/16	16 1/2	6.20
W-266	17.50	1 1/8 x 1 1/4	1 13/16 x 2	18	8.00

Berylco Sparkproof Combination or Automobile Pliers



Slip joint.
Made of beryllium copper.

No.....	P-102	P-103
Each.....	\$4.15	4.35
Size Overall.....	inches	6
Approximate Weight.....	pounds	.50

Berylco Sparkproof Floor Scrapers

Heavy Duty—Long Blade



No.....	S-107	S-108	S-109	S-110
Beryllium Copper.....	each	\$5.45	6.55	7.65
Blade, Without Handle.....	inches	3	4	5
Approximate Weight.....	pounds	1.25	1.85	2.30

Armstrong Armaloy Engineers' Wrenches

Selected Grade Alloy Steel—Drop Forged

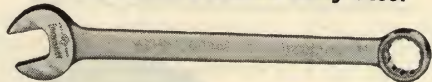


15° Angle
Double Head
Chromeover
nickel; heads
buffed bright.

No.	Each	Nominal Opening Inches	For Amer. Std. Heavy Nuts (U.S.S.); Size Bolt Inches	For Amer. Std. Hex. Head Cap Screws; Diam. Screw Inches	For Amer. Std. Light Nuts; Size Bolt Inches	For Amer. Std. Regular Nuts; Size Bolt Inches	Ex-treme Lgth. In.	Thick-ness Head In.	Ap-prox. Wt. Lb.
1021-S	\$.70	1/4, 3/16	1/8	1/8	1/8	1/8	4 1/2	5/32	...
1720	.70	5/16, 11/32	1/8	1/8	1/8	1/8	4 1/2	5/32	...
1721	.70	9/16, 7/8	1/8	1/8	1/8	1/8	4 1/2	5/32	...
1021	.70	5/16, 13/32	1/8	1/8	1/8	1/8	5 1/2	13/64	1/8
1723	.81	3/8, 7/16	3/16, 1/4	3/16, 1/4	3/16, 1/4	3/16, 1/4	4 7/8	13/64	1/8
1023	.81	13/32, 1/2	3/16, 1/4	3/16, 1/4	3/16, 1/4	3/16, 1/4	6	7/32	1/8
1723-A	.81	3/8, 1/2	1/4	1/4	1/4	1/4	6	7/32	1/8
1725	.91	7/16, 1/2	1/4	1/4	1/4	1/4	5 5/8	3/4	3/16
1725-A	.96	7/16, 3/8	1/4	1/4	1/4	1/4	5 5/8	3/4	3/16
1725-B	1.00	1/2, 9/16	1/4	1/4	1/4	1/4	6 1/8	1/4	3/16
1025	1.00	1/2, 19/32	1/4, 5/16	5/16	5/16	5/16	6 1/8	1/4	3/16
1727	1.12	9/16, 5/8	3/8, 7/16	3/8, 7/16	3/8, 7/16	3/8, 7/16	6 3/8	9/32	1/4
1027-C	1.39	9/16, 11/16	3/8	3/8	3/8	3/8	7 1/4	9/32	1/4
1027	1.39	19/32, 11/16	5/16, 3/8	5/16, 3/8	5/16, 3/8	5/16, 3/8	7 1/4	9/32	1/4
1027-B	1.39	5/8, 11/16	3/8	3/8	3/8	3/8	7 1/4	9/32	1/4
1028	1.39	19/32, 25/32	5/16, 7/16	5/16, 7/16	5/16, 7/16	5/16, 7/16	7 1/8	5/16	3/8
1028-S	1.39	5/8, 25/32	7/16	7/16	7/16	7/16	7 7/8	5/16	3/8
1729	1.39	5/8, 3/4	7/16, 1/2	7/16, 1/2	7/16, 1/2	7/16, 1/2	7 7/8	5/16	3/8
1029-B	1.50	11/16, 3/4	3/8	3/8	3/8	3/8	8 1/2	5/16	3/8
1029	1.74	11/16, 25/32	3/8, 7/16	3/8, 7/16	3/8, 7/16	3/8, 7/16	8 1/2	5/16	3/8
1029-C	1.74	11/16, 13/16	3/8	3/8	3/8	3/8	8 1/2	5/16	3/8
1030	1.74	11/16, 7/8	3/8, 1/2	3/8, 1/2	3/8, 1/2	3/8, 1/2	8 1/2	5/16	3/8
1731	1.80	3/4, 13/16	1/2	1/2	1/2	1/2	9 1/4	3/8	3/4
1731-A	1.80	3/4, 7/8	1/2	1/2	1/2	1/2	9 1/4	3/8	3/4
1031-B	1.90	25/32, 13/16	7/16	7/16	7/16	7/16	9 1/4	3/8	3/4
1031	1.90	25/32, 7/8	7/16, 1/2	7/16, 1/2	7/16, 1/2	7/16, 1/2	9 1/4	3/8	3/4
1731-B	1.90	13/16, 7/8	1/2	1/2	1/2	1/2	9 1/4	3/8	3/4
1032-B	2.04	13/16, 15/16	1/2	1/2	1/2	1/2	9 1/4	3/8	3/4
1033-A	2.04	7/8, 15/16	1/2	1/2	1/2	1/2	10	3/8	3/4
1733	2.53	7/8, 1	3/4	3/4	3/4	3/4	10 7/8	7/16	1
1033-C	2.53	15/16, 1	3/4	3/4	3/4	3/4	10 7/8	7/16	1
1034	2.43	7/8, 1 1/16	3/4, 7/8	3/4, 7/8	3/4, 7/8	3/4, 7/8	11 3/4	7/16	1
1034-A	2.64	15/16, 1 1/16	3/4	3/4	3/4	3/4	11 3/4	7/16	1
1035	2.64	31/32, 1 1/16	3/4	3/4	3/4	3/4	11 3/4	7/16	1
1735	3.09	1, 1 1/16	3/4, 7/8	3/4, 7/8	3/4, 7/8	3/4, 7/8	12 3/4	1 1/2	1 1/16
1036-B	3.09	1 1/16, 1 1/8	3/4	3/4	3/4	3/4	12 3/4	1 1/2	1 1/16
1037	3.57	1 1/16, 1 1/4	3/4, 7/8	3/4, 7/8	3/4, 7/8	3/4, 7/8	12 3/4	1 1/2	1 1/16
1737	3.57	1 1/8, 1 1/4	3/4	3/4	3/4	3/4	12 3/4	1 1/2	1 1/16
1037-A	3.57	1 1/8, 1 1/16	3/4, 7/8	3/4, 7/8	3/4, 7/8	3/4, 7/8	12 3/4	1 1/2	1 1/16
1039-B	5.13	1 1/4, 1 1/2	3/4, 7/8	3/4, 7/8	3/4, 7/8	3/4, 7/8	14	9/16	2 1/4
1039	5.13	1 1/4, 1 1/16	3/4, 7/8	3/4, 7/8	3/4, 7/8	3/4, 7/8	14	9/16	2 1/4
1039-A	5.13	1 1/8, 1 1/2	1, 1 1/8	1, 1 1/8	1, 1 1/8	1, 1 1/8	14	9/16	2 1/4
1039-C	5.13	1 1/8, 1 1/16	1, 1 1/8	1, 1 1/8	1, 1 1/8	1, 1 1/8	14	9/16	2 1/4
1040	5.13	1 1/4, 1 1/8	3/4, 1	1 1/8	1 1/8	1 1/8	15 3/4	13/16	3 3/4
1041	6.73	1 1/16, 1 1/8	7/8, 1	1 1/8	1 1/8	1 1/8	15 3/4	13/16	3 3/4
1041-B	7.39	1 1/2, 1 1/8	1, 1 1/8	1 1/8	1 1/8	1 1/8	15 3/4	13/16	3 3/4

Armstrong Armaloy Combination Box and Open End Miniature Wrenches

Drop Forged—Selected Alloy Steel



For work on generators, radios, refrigerator units, etc. Accurately milled, smoothly burnished, heat-treated and finished in chrome plate with heads buffed bright.

—DIMENSIONS, INCHES—

No.	Each	Nominal Opening	Approx. Extreme Length	Approx. Thickness Heads
15641	\$1.03	7/32, 7/32	3	7/64
15642	1.03	1/4, 1/4	3	1/8
15643	1.08	9/32, 9/32	3 1/2	5/32
15644	1.08	5/16, 5/16	3 1/2	5/32
15645	1.08	11/32, 11/32	4 3/16	11/64
15646	1.15	3/8, 3/8	4 3/16	11/64

Armstrong Armaloy Combination Box and Open End Wrenches

Selected Grade Alloy Steel—Drop Forged



Has a 15° angle milled opening at one end; double hexagon or 12-point opening with 15° offset at other end. Both ends have same size opening.

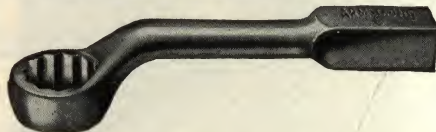
Drop forged from selected grade alloy steel, heat treated. Chrome over nickel, heads buffed bright.

No.	Each	Nominal Opening Inches	For Amer. Std. Heavy Nuts (U.S.S.); Size Bolt In.	For Amer. Std. Hex. Head Light Nuts; Size Bolt In.	For Amer. Std. Hex. Head Light Nuts; Size Bolt In.	For Amer. Std. Hex. Head Light Nuts; Size Bolt In.	Approx. Extreme Lgth. In.	Wt. Oz.
1161	\$1.23	7/16, 7/16	1/4	1/4	1/4	No. 12, 1/4	5	1 1/2
1162	1.32	1/2, 1/2	1/4	1/4	1/4	...	5 1/4	2
1163	1.44	9/16, 9/16	3/8	3/8	3/8	...	5 7/8	3
1163-A	1.44	19/32, 19/32	5/16	5/16	5/16	...	6 1/4	4
1164	1.53	5/8, 5/8	7/16	7/16	7/16	...	7	6
1165	1.71	11/16, 11/16	3/8	3/8	3/8	...	8	8
1166	1.90	3/4, 3/4	1/2	1/2	1/2	...	8	8
1166-A	1.90	25/32, 25/32	7/16	7/16	7/16	...	10 1/2	12
1167-A	2.26	13/16, 13/16	9/16	9/16	9/16	...	10 1/2	12
1167	2.37	7/8, 7/8	1/2	1/2	1/2	...	13	18
1168	2.67	15/16, 15/16	...	...	...	...	13	18
1170	2.73	1, 1	3/4	3/4	3/4	...	15	1.75
1171	3.57	1 1/16, 1 1/16	5/8	5/8	5/8	...	15	1.63
1172	4.08	1 1/8, 1 1/8	7/8	7/8	7/8	...	18	2.56
1173	4.71	1 1/4, 1 1/4	3/4	3/4	3/4	...	18	2.56
1174	5.68	1 5/16, 1 5/16	1	1	1	...	20	3.50
1175	6.46	1 3/8, 1 3/8	7/8	7/8	7/8	...	21	3.88
1176	6.46	1 1/2, 1 1/2	1	1	1	...	21	3.88

Armstrong Armaloy Striking

Face Box Wrenches

Alloy Steel—Drop Forged—Offset Pattern
45° Angle—Double Hexagon (12 Point) Opening



Designed for rugged service in close quarters. Drop forged from alloy steel, heat treated. Finished in cadmium plate.

No.	Each	Nominal Opening Inches	For Amer. Std. Heavy Nut (U.S.S.); Size Bolt Inches	For Amer. Std. Light Nut (S.A.E.); Size Bolt Inches	For Amer. Std. Reg. Nut; Size Bolt Inches	Approx. Extreme Lgth. In.	Thick-ness Head In.	Out-side Diam. In.
8807	\$7.12	1 1/16	5/8	3/4	...	10 1/2	13/16	1 7/8
8807-A	7.12	1 1/8	...	...	3/4	10 1/2	13/16	1 7/8
8808	7.44	1 1/4	3/4	7/8	...	11	7/8	2 3/8
8808-A	7.44	1 1/16	...	...	7/8	11	7/8	2 3/8
8809	9.06	1 7/16	7/8	1	...	11 1/2	1	2 5/8
8809-A	9.06	1 1/2	...	...	1	11 1/2	1	2 5/8
8810	10.20	1 5/8	1	1 1/8	...	12	1 1/16	2 5/8
8810-A	10.20	1 11/16	...	...	1 1/8	12	1 1/16	2 5/8
8811	10.81	1 13/16	1 1/8	1 1/4	...	12 1/2	1 1/8	2 5/8
8811-A	10.81	1 7/8	...	...	1 1/4	12 1/2	1 1/8	2 5/8
8812	11.13	2	1 1/4	1 3/8	...	13	1 1/4	3 5/8
8813	13.98	2 3/16	1 3/8	1 1/2	...	13 1/2	1 3/8	3 5/8
8813-A	13.98	2 1/4	...	...	1 1/2	13 1/2	1 3/8	3 5/8
8814	15.18	2 3/8	1 1/2	...	...	14	1 1/2	3 5/8
8815	17.04	2 9/16	1 5/8	...	...	14 1/2	1 5/8	3 5/8
8815-A	17.04	2 5/8	...	...	1 3/4	14 1/2	1 5/8	3 5/8
8816	23.31	2 3/4	1 3/4	...	...	15	1 3/4	4 3/8
8816-B	25.84	2 15/16	1 7/8	...	...	16	1 7/8	4 3/8
8817-A	30.57	3	...	...	2	16 1/2	2	4 15/16
8817	30.57	3 1/8	2	...	...	16 1/2	2	4 15/16

Williams' Superior Engineers' Wrenches

Carbon Steel

15° Angle—Double Head



Openings milled, surface and edges smooth, size stamped on head. Hardened and black enameled (baked on)—heads bright.

No.	Each	Nominal Openings Inches	For Amer. Std. Heavy Nuts (U.S.S.); Size Bolts Inches	For Amer. Std. Hex. Head Cap-Screws; Diam. Screws Inches	For Amer. Std. Light Nuts (S.A.E.); Size Bolts Inches	For Amer. Std. Reg. Nuts; Size Bolts Inches	Ex- treme Lgth. In.
721	.51	5/16	3/8	1/2	1/2	1/2	4 1/8
722	.51	5/16	3/8	1/2	1/2	1/2	4 1/8
723	.63	5/16	3/8	1/2	1/2	1/2	4 1/8
723A	.63	5/16	3/8	1/2	1/2	1/2	4 1/8
724	.63	5/16	3/8	1/2	1/2	1/2	4 1/8
725	.77	5/16	3/8	1/2	1/2	1/2	5 1/8
725A	.77	5/16	3/8	1/2	1/2	1/2	5 1/8
725B	.77	5/16	3/8	1/2	1/2	1/2	5 1/8
726	.95	5/16	3/8	1/2	1/2	1/2	6 1/8
727	.95	5/16	3/8	1/2	1/2	1/2	6 1/8
727B	.95	5/16	3/8	1/2	1/2	1/2	6 1/8
727C	.95	5/16	3/8	1/2	1/2	1/2	6 1/8
728	1.13	5/16	3/8	1/2	1/2	1/2	7 1/8
728S	1.13	5/16	3/8	1/2	1/2	1/2	7 1/8
729	1.13	5/16	3/8	1/2	1/2	1/2	7 1/8
729B	1.13	5/16	3/8	1/2	1/2	1/2	7 1/8
729C	1.13	5/16	3/8	1/2	1/2	1/2	7 1/8
730	1.38	5/16	3/8	1/2	1/2	1/2	8 1/8
731	1.38	5/16	3/8	1/2	1/2	1/2	8 1/8
731A	1.38	5/16	3/8	1/2	1/2	1/2	8 1/8
731B	1.38	5/16	3/8	1/2	1/2	1/2	8 1/8
732	1.67	5/16	3/8	1/2	1/2	1/2	10
733	1.67	5/16	3/8	1/2	1/2	1/2	10
733C	1.67	5/16	3/8	1/2	1/2	1/2	10
734	2.08	5/16	3/8	1/2	1/2	1/2	11
734A	2.08	5/16	3/8	1/2	1/2	1/2	11
735	2.08	5/16	3/8	1/2	1/2	1/2	11
736	2.93	5/16	3/8	1/2	1/2	1/2	12 3/8
737	2.93	5/16	3/8	1/2	1/2	1/2	12 3/8
737A	2.93	5/16	3/8	1/2	1/2	1/2	12 3/8
738	4.26	5/16	3/8	1/2	1/2	1/2	14
739	4.26	5/16	3/8	1/2	1/2	1/2	14
739A	4.26	5/16	3/8	1/2	1/2	1/2	14
739C	4.26	5/16	3/8	1/2	1/2	1/2	14
40	5.79	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	15 3/4
41	5.79	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	15 3/4
41B	5.79	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	15 3/4
42	8.09	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	17
42A	8.09	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	17
43	8.09	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	17
44	10.99	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	19
44A	10.99	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	19
45	10.99	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	19
45A	10.99	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	19
47	16.02	2 1/8	2 1/8	2 1/8	2 1/8	2 1/8	21
47B	16.02	2 1/8	2 1/8	2 1/8	2 1/8	2 1/8	21
48	21.34	2 1/8	2 1/8	2 1/8	2 1/8	2 1/8	23
49	21.34	2 1/8	2 1/8	2 1/8	2 1/8	2 1/8	23
49A	21.34	2 1/8	2 1/8	2 1/8	2 1/8	2 1/8	23
51	30.17	2 3/8	2 3/8	2 3/8	2 3/8	2 3/8	25
51A	30.17	2 3/8	2 3/8	2 3/8	2 3/8	2 3/8	25
53	36.59	2 3/8	2 3/8	2 3/8	2 3/8	2 3/8	27
53A	36.59	2 3/8	2 3/8	2 3/8	2 3/8	2 3/8	27
54C	43.46	2 3/8	2 3/8	2 3/8	2 3/8	2 3/8	30
55A	47.27	2 3/8	2 3/8	2 3/8	2 3/8	2 3/8	32
55B	47.27	2 3/8	2 3/8	2 3/8	2 3/8	2 3/8	32
57B	71.65	3 1/8	3 1/8	3 1/8	3 1/8	3 1/8	36
57	71.65	3 1/8	3 1/8	3 1/8	3 1/8	3 1/8	36
58A	94.52	3 1/8	3 1/8	3 1/8	3 1/8	3 1/8	38
58	94.52	3 1/8	3 1/8	3 1/8	3 1/8	3 1/8	38
60A	114.35	3 3/8	3 3/8	3 3/8	3 3/8	3 3/8	40
60	114.35	3 3/8	3 3/8	3 3/8	3 3/8	3 3/8	40
62A	143.31	4 1/8	4 1/8	4 1/8	4 1/8	4 1/8	43
62	143.31	4 1/8	4 1/8	4 1/8	4 1/8	4 1/8	43
63A	205.82	4 3/8	4 3/8	4 3/8	4 3/8	4 3/8	47
64A	236.31	5	5	5	5	5	47

Williams' Superior Drop-Forged Structural Wrenches

Straight Opening—Carbon Steel



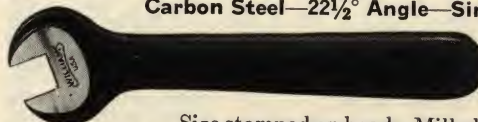
Jaws narrow and long. Round long handle has tapered end. Milled, hardened all over, shot-blasted; heads not bright.

No.	Each	For U.S. Std. Nut; Size Bolt In.	Amer. Std. Req. Nut; Size Bolt In.	Nom. Open. In.	Extreme Length Inches	Thick- ness Head Inches	HANDLE OFFSET —INCHES— At Head At End	Wt. Lb.
901A	\$1.21	1/4	1/4	1/16	9 1/2	11/32	13/16 1 1/2	.33
901	1.21	1/4	1/4	1/16	9 1/2	11/32	13/16 1 1/2	.33
901B	1.21	1/4	1/4	1/16	9 1/2	11/32	13/16 1 1/2	.33
902	1.21	5/16	5/16	1/16	9 1/2	11/32	13/16 1 1/2	.33
903A	1.60	3/8	3/8	1/16	12	7/16	7/8 1 1/16	.63
903	1.60	3/8	3/8	1/16	12	7/16	7/8 1 1/16	.63
904A	1.60	7/16	7/16	1/16	12	7/16	7/8 1 1/16	.61
904	1.60	7/16	7/16	1/16	12	7/16	7/8 1 1/16	.61
905A	2.13	1/2	1/2	1/16	14 1/2	1 1/8	1 1/8 1 7/8	1.2
905	2.13	1/2	1/2	1/16	14 1/2	1 1/8	1 1/8 1 7/8	1.2
906	2.13	9/16	9/16	1/16	14 1/2	1 1/8	1 1/8 1 7/8	1.2
906B	2.13	5/8	5/8	1/16	14 1/2	1 1/8	1 1/8 1 7/8	1.2
907	2.83	5/8	5/8	1/16	17	5/8	1 7/8 2 3/8	1.9
907A	2.83	3/4	3/4	1/16	17	5/8	1 7/8 2 3/8	1.9
908	3.59	3/4	3/4	1/16	19	11/16	1 7/8 2 3/4	2.9
908A	3.59	7/8	7/8	1/16	19	11/16	1 7/8 2 3/4	2.9
909	4.58	7/8	7/8	1/16	21	3/4	1 7/8 3 1/8	4.
909A	4.58	1	1	1/16	21	3/4	1 7/8 3 1/8	4.
910	6.25	1	1	1/16	23	13/16	1 7/8 3 3/8	5.3
910A	6.25	1 1/8	1 1/8	1/16	23	13/16	1 7/8 3 3/8	5.3
911	9.36	1 1/8	1 1/8	1/16	25	7/8	1 7/8 3 1/2	7.4
911A	9.36	1 1/4	1 1/4	1/16	25	7/8	1 7/8 3 1/2	7.4
912	9.36	1 1/4	1 1/4	1/16	25	7/8	1 7/8 3 1/2	7.4

Williams' Superior Drop-Forged Wrenches

For Set or Cap-Screws

Carbon Steel—22 1/2° Angle—Single Head



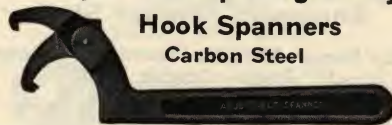
Size stamped on heads. Milled; surface and edges smoothed; hardened; finished in black, baked on, enamel; heads bright.

No.	Each	For Set- Screw In.	Square Cap- Screw In.	Ex- treme Lgth. In.	No.	Each	For Set- Screw In.	Square Cap- Screw In.	Ex- treme Lgth. In.
500	\$.44	3/16	3/16	3	506	\$1.41	9/16	7/16	7 1/2
501	.51	1/4	1/4	3 1/2	507	1.67	5/8	1/2	8 1/2
502	.63	5/16	5/16	4 1/4	508	2.08	3/4	5/8	9 1/2
503	.77	3/8	3/8	5	509	2.56	7/8	3/4	10 1/2
504	.95	7/16	7/16	5 3/4	510	3.37	1	7/8	11 1/2
505	1.17	1/2	1/2	6 5/8	511	4.26	1 1/8	1	12 1/2

Williams' Superior Drop-Forged Adjustable

Hook Spanners

Carbon Steel



A combination of strength and ready adjustment, each wrench services a wide range of sizes. Drop forged from a strong, tough grade of carefully selected steel.

Finished surface; edges smoothed and black enameled (baked on); jaws are hardened and tempered.

No.	Each	471	472	474	474A
Max. Diam. Circles.....in.	3/4-2	1 1/4-3	2-4 1/2	4 1/2-6 1/4	
Approx. Length.....in.	6 3/8	8 1/8	11 3/8	12 1/8	
Handle Thick.....in.	1/4	5/32	5/16	5/16	
Hook Thick.....in.	11/32	13/32	15/32	15/32	
Hook Depth.....in.	1/8	5/32	3/16	1/4	
Weight.....lb.	.28	.52	.95	1.1	

Williams' Engineers' Pattern Superrenches Selected Alloy—15° Angle—Double Head



Jaws are long, thin and pointed. With 15° angle of openings hex nut can be rotated completely where swing is limited to only 30°. Drop-forged; chrome plate over nickel with faces polished bright.

No.	Each	Nom. Open. In.	For Amer. Std. Heavy Nuts (U.S.S.); Size Bolts In.	For Amer. Std. Hex. Head Cap-Screws; Diam. Screws In.	For Amer. Std. Light Nuts (S.A.E.); Size Bolts In.	For Amer. Std. Reg. Nuts; Size Bolts In.	Ex-treme Lgth. In.	Thick-Head In.
A1020	\$.71	1 1/4	5/16	1/8	1/8	1/8	33 1/16	5 3/32
A1720	.71	1 1/2	3/8	1/8	1/8	1/8	41 1/4	3 1/16
A1721	.71	1 3/4	1/2	3/16	1/8	3/16	41 1/4	3 1/16
A1021	.71	1 1/2	5/16	1/8	1/8	1/8	41 1/4	3 1/16
A1723	.81	1 3/4	3/8	1/4	1/4	1/4	41 1/4	3 1/16
A1023	.81	1 1/2	5/16	1/8	1/8	1/8	41 1/4	3 1/16
A1733A	.81	1 3/4	1/2	3/16	1/8	3/16	41 1/4	3 1/16
A1725	.92	1 3/4	3/8	1/4	1/4	1/4	41 1/4	3 1/16
A1725A	.96	1 3/4	1/2	3/16	1/8	3/16	41 1/4	3 1/16
A1725B	1.00	1 3/4	1/2	3/16	1/8	3/16	41 1/4	3 1/16
A1025	1.00	1 1/2	5/16	1/8	1/8	1/8	41 1/4	3 1/16
A1727	1.13	1 3/4	3/8	1/4	1/4	1/4	41 1/4	3 1/16
A1027C	1.40	1 3/4	1/2	3/16	1/8	3/16	41 1/4	3 1/16
A1027	1.40	1 3/4	3/8	1/4	1/4	1/4	41 1/4	3 1/16
A1027B	1.40	1 3/4	1/2	3/16	1/8	3/16	41 1/4	3 1/16
A1028	1.40	1 3/4	3/8	1/4	1/4	1/4	41 1/4	3 1/16
A1028S	1.40	1 3/4	1/2	3/16	1/8	3/16	41 1/4	3 1/16
A1729	1.40	1 3/4	3/8	1/4	1/4	1/4	41 1/4	3 1/16
A1029B	1.50	1 3/4	1/2	3/16	1/8	3/16	41 1/4	3 1/16
A1029	1.75	1 3/4	3/8	1/4	1/4	1/4	41 1/4	3 1/16
A1029C	1.75	1 3/4	1/2	3/16	1/8	3/16	41 1/4	3 1/16
A1030	1.75	1 3/4	3/8	1/4	1/4	1/4	41 1/4	3 1/16
A1731	1.81	1 3/4	1/2	3/16	1/8	3/16	41 1/4	3 1/16
A1731A	1.81	1 3/4	3/8	1/4	1/4	1/4	41 1/4	3 1/16
A1031B	1.91	1 3/4	1/2	3/16	1/8	3/16	41 1/4	3 1/16
A1031	1.91	1 3/4	3/8	1/4	1/4	1/4	41 1/4	3 1/16
A1731B	1.91	1 3/4	1/2	3/16	1/8	3/16	41 1/4	3 1/16
A1032B	2.05	1 3/4	3/8	1/4	1/4	1/4	41 1/4	3 1/16
A1033A	2.05	1 3/4	1/2	3/16	1/8	3/16	41 1/4	3 1/16
A1733	2.54	1 3/4	3/8	1/4	1/4	1/4	41 1/4	3 1/16
A1033C	2.54	1 3/4	1/2	3/16	1/8	3/16	41 1/4	3 1/16
A1034	2.43	1 3/4	3/8	1/4	1/4	1/4	41 1/4	3 1/16
A1034A	2.64	1 3/4	1/2	3/16	1/8	3/16	41 1/4	3 1/16
A1035	2.64	1 3/4	3/8	1/4	1/4	1/4	41 1/4	3 1/16
A1735	3.10	1 3/4	1/2	3/16	1/8	3/16	41 1/4	3 1/16
A1036B	3.10	1 3/4	3/8	1/4	1/4	1/4	41 1/4	3 1/16
A1037	3.57	1 3/4	1/2	3/16	1/8	3/16	41 1/4	3 1/16
A1737	3.57	1 3/4	3/8	1/4	1/4	1/4	41 1/4	3 1/16
A1037A	3.57	1 3/4	1/2	3/16	1/8	3/16	41 1/4	3 1/16
A1039B	5.13	1 3/4	3/8	1/4	1/4	1/4	41 1/4	3 1/16
A1039	5.13	1 3/4	1/2	3/16	1/8	3/16	41 1/4	3 1/16
A1039A	5.13	1 3/4	3/8	1/4	1/4	1/4	41 1/4	3 1/16
A1039C	5.13	1 3/4	1/2	3/16	1/8	3/16	41 1/4	3 1/16
A1040	5.13	1 3/4	3/8	1/4	1/4	1/4	41 1/4	3 1/16
A1041	6.74	1 3/4	1/2	3/16	1/8	3/16	41 1/4	3 1/16
A1041B	7.41	1 3/4	3/8	1/4	1/4	1/4	41 1/4	3 1/16

No. 6A Williams Diamond W Open End Engineers' Wrench Sets

Alloy Steel—Chrome Plated Over Nickel
15° Angle—Double Head



Drop forged from selected alloy steel, heat treated. Features long thin jaws. Heads polished bright.

Openings: 3/8x1 1/16, 1/2x1 1/8, 5/8x1 1/4, 3/4x1 1/2, and 15/16x1 inch.

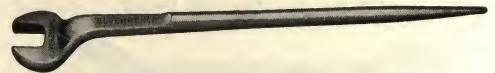
Set of 6 supplied in a metal clip.

Weight, 2 1/4 pounds.

Prices upon application.

Williams' Superrenches Selected Alloy Steel

Structural Pattern—Straight Opening



Jaws are narrow and long. Handle is round with tapered end for easy insertion in bolt holes. Abrupt offset and angle of handle provide for clearance of obstructions.

Drop forged from selected alloy steel, heat-treated, and finished in baked gray enamel all over.

No.	Each	For U.S.S. Std. Nut Size Bolt In.	For Amer. Std. Reg. Nut Size Bolt In.	Nom. Open- ing In.	Ex-treme Length Approx. In.	Thick- Head In.	HANDLE OFFSET, IN. At Head At End	Wt. Lb.
1905	\$3.43	1 1/2	9/16	7/8	14 1/2	1 1/2	1 1/8	1.2
1906B	3.43	1 1/2	5/8	1	14 1/2	1 1/2	1 1/8	1.2
1907	4.80	1 1/2	3/4	1 1/16	17	1 1/2	1 1/8	1.9
1907A	4.80	1 1/2	3/4	1 1/8	17	1 1/2	1 1/8	1.9
1908	6.49	1 1/2	3/4	1 1/4	19	1 1/2	1 1/8	2.8
1908A	6.49	1 1/2	3/4	1 1/8	19	1 1/2	1 1/8	2.8
1909	8.93	1 1/2	3/4	1 3/8	21	1 1/2	1 1/8	4.1
1909A	8.93	1 1/2	3/4	1 1/2	21	1 1/2	1 1/8	4.1
1910	12.34	1 1/2	3/4	1 5/8	23	1 1/2	1 1/8	5.6
1910A	12.34	1 1/2	3/4	1 1/2	23	1 1/2	1 1/8	5.6
1911	18.68	1 1/2	3/4	1 3/4	25	1 1/2	1 1/8	7.9
1911A	18.68	1 1/2	3/4	1 3/8	25	1 1/2	1 1/8	7.9
1912	18.68	1 1/2	3/4	2	25	1 1/2	1 1/8	7.9

No. S-57 Williams' Torque Measurrenches For Use with Standard Supersockets 1/2-Inch Square Drive



A reversible ratchet Patented Measurrench with right hand torque indicating signal. Closely limited torque application is essential in automotive, aviation and Diesel motors, also for many industrial appliances. Can be used wherever limited and equal tension is required on nuts, bolts, studs, etc.

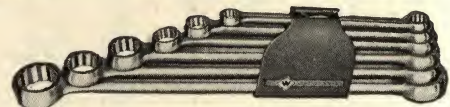
The wrench may be used in two ways: By sight reading, the calibrated scale shows applied pressures of 20 to 200 foot-pounds. It is read at point where index shoulder crosses the scale; by sound reading, a sharp sound signal is given for and desired torque from 35 to 200 foot-pounds, by setting the simple sound device.

Well balanced drop forged handle with specially designed grip. Handle is 19 1/2 inches long for ample leverage.

Made of alloy and high tensile steel, accurately machined and scientifically heat-treated. Finished in chrome plate with entire top and sides of head and calibrated bar buffed. Handle is satin chrome.

Packed in individual metal case. Weight, 5.9 pounds. No. S-57, without Sockets.....each \$42.90

Williams' Diamond W Box Wrench Sets Alloy Steel—Chrome Plated Over Nickel Long Pattern—15° Angle—Double Offset Heads



No. 615

Drop-forged from selected alloy steel, heat-treated. Has thin head walls with 12-point openings which permit use where clearance is limited. Heads polished bright.

No. 515. A 5-piece set. Openings: 3/8x1 1/16, 1/2x1 1/8, 5/8x1 1/4, 3/4x1 1/2, and 15/16x1-inch. Weight, 1 1/2 pounds.

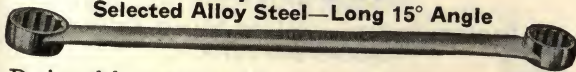
No. 615. A 6-piece set. Openings: 3/8x1 1/16, 1/2x1 1/8, 5/8x1 1/4, 3/4x1 1/2, and 15/16x1-inch. Weight, 2 3/4 pounds.

Set supplied in an individual clip.

Prices upon application.

Williams' Drop Forged 12-Point Box Superrenches

Selected Alloy Steel—Long 15° Angle



Designed for use in close quarters. Heat treated.

No.	Each	Nominal Openings	For Amer. Std. Heavy Nuts (U.S.S.)	For Amer. Std. Hex Head Cap-Screws (U.S.S.)	For Amer. Std. Light Nuts (S.A.E.)	For Amer. Std. Regular Nuts	Approx. Length	Wt. Lb.
7723	\$1.13	3/8, 7/16	3/16, 1/4	1/4, 5/16	1/4, 5/16	1/4, 5/16	7 3/8	.13
7023	1.13	13/32, 1/2	3/16, 1/4	1/4, 5/16	1/4, 5/16	1/4, 5/16	7 3/8	.16
7725	1.13	7/16, 1/2	1/4, 5/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	7 3/8	.16
7725A	1.13	7/16, 1/2	1/4, 5/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	7 3/8	.16
7725B	1.13	7/16, 1/2	1/4, 5/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	7 3/8	.22
7025	1.19	1/2, 9/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	8 1/4	.22
7727	1.29	1/2, 9/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	8 1/4	.22
7727A	1.60	9/16, 5/8	1/4, 5/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	9 1/4	.31
7027	1.60	9/16, 5/8	1/4, 5/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	9 1/4	.48
7729	1.60	9/16, 5/8	1/4, 5/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	10 1/2	.51
7029B	1.75	11/16, 3/4	1/4, 5/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	10 1/2	.48
7029	1.75	11/16, 3/4	1/4, 5/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	10 1/2	.51
7729A	1.75	3/4, 25/32	1/4, 5/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	10 1/2	.51
7030	1.75	11/16, 3/4	1/4, 5/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	12	.66
7731A	1.91	3/4, 7/8	1/4, 5/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	12	.66
7031B	1.91	25/32, 3/4	1/4, 5/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	12	.66
7031	1.91	25/32, 3/4	1/4, 5/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	12	.66
7731B	1.91	13/16, 7/8	1/4, 5/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	12	.66
7033A	3.37	7/8, 15/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	13 3/4	.94
7733	3.37	7/8, 1	1/4, 5/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	13 3/4	.94
7033C	3.37	15/16, 1	1/4, 5/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	13 3/4	.94
7034	3.30	7/8, 1 1/8	1/4, 5/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	13 3/4	.95
7034A	3.82	15/16, 1 1/8	1/4, 5/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	15 1/2	1.2
7735	3.82	1 1/8, 1 1/4	1/4, 5/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	15 1/2	1.3
7735A	3.82	1 1/8, 1 1/4	1/4, 5/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	17 1/4	2.
7037	3.88	1 1/8, 1 1/4	1/4, 5/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	17 1/4	1.8
7037A	4.44	1 1/8, 1 1/4	1/4, 5/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	19	2.4
7039B	4.44	1 1/8, 1 1/4	1/4, 5/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	19	2.4
7039	4.55	1 1/8, 1 1/4	1/4, 5/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	19	2.4
7039A	4.55	1 1/8, 1 1/4	1/4, 5/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	19	2.4
7040B	5.96	1 1/8, 1 1/2	1/4, 5/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	21	5.61
7041	7.41	1 1/8, 1 1/2	1/4, 5/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	23	5.59
7742B	7.41	1 1/2, 1 1/4	1/4, 5/16	1/4, 5/16	1/4, 5/16	1/4, 5/16	23	5.59

Williams' Midget Superrenches

Selected Alloy—Chrome-Plated

Used on magnetos, generators, wiring-connections, carburetors, radios, all delicate adjustments and in close quarters. Made of selected alloy steel, heat treated and chrome-plated; heads buffed. Unusually thin and slim.

15° Angle Opening



No.	Each	Nominal Openings	Extreme Length	Thick. Heads
1106	\$.77	15/64 & 7/32	3	3/32
1107	.77	15/64 & 1/4	3	3/32
1108	.77	7/32 & 11/32	3 1/2	1/8
1108A	.77	1/4 & 5/16	3 1/2	1/8
1109	.77	5/16 & 3/8	3 1/2	1/8

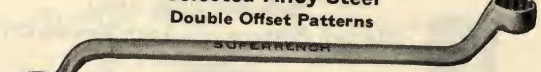
15° and 75° Angle Opening



No.	Each	Nominal Openings	Extreme Length	Thick. Heads
1112	\$.77	3/16 & 3/16	3	3/32
1113	.77	13/64 & 13/64	3	3/32
1114	.77	7/32 & 7/32	3	3/32
1115	.77	15/64 & 15/64	3	3/32
1116	.77	1/4 & 1/4	3	3/32
1118	.77	9/32 & 9/32	3 3/4	1/8
1120	.77	5/16 & 5/16	3 3/4	1/8
1122	.77	11/32 & 11/32	3 3/4	1/8
1124	.77	3/8 & 3/8	3 3/4	1/8
1128	.77	7/16 & 7/16	4 1/2	5/32
1132	.77	1/2 & 1/2	4 1/2	5/32

Williams' 12-Point Box Superrenches

Selected Alloy Steel
Double Offset Patterns



Adapted to work in close quarters.

Drop forged from selected alloy steel. Heat treated. Chrome plate over nickel finish; heads bright.

Long Pattern—Different Opening in Each Head

No.	Each	Nominal Openings	For Amer. Std. Heavy Nut (U.S.S.)	For Amer. Std. Hex Head Cap Screw (S.A.E.)	For Amer. Std. Light Nut (S.A.E.)	For Amer. Std. Reg. Nut	Approx. Length	Wt. Lb.
8021	\$1.03	5/16, 13/32	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	7 1/4	.18
8723	1.29	3/8, 1/2	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	7 3/4	.26
8023	1.29	13/32, 1/2	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	7 3/4	.37
8725	1.29	7/16, 1/2	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	7 3/4	.37
8725A	1.44	7/16, 1/2	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	8 1/4	.43
8725B	1.44	1/2, 9/16	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	8 1/4	.43
8025	1.44	1/2, 9/16	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	8 1/4	.43
8727	1.44	9/16, 5/8	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	9 1/4	.59
8727A	1.60	5/8, 1 1/16	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	11	.8
8027	1.60	9/16, 5/8	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	11	.84
8729	1.60	5/8, 3/4	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	11	.84
8029B	1.60	11/16, 3/4	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	11	.84
8029	1.60	11/16, 3/4	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	11	.84
8729A	1.71	3/4, 25/32	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	12 1/2	1.00
8030	1.71	11/16, 3/4	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	12 1/2	1.00
8731	1.71	3/4, 13/16	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	12 1/2	1.00
8731A	1.71	3/4, 7/8	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	12 1/2	1.00
8031B	1.71	25/32, 13/16	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	12 1/2	1.00
8031	1.71	25/32, 7/8	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	12 1/2	1.00
8731B	1.81	13/16, 7/8	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	12 1/2	1.00
8033A	2.49	7/8, 15/16	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	13 1/2	1.14
8733	2.49	7/8, 1	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	13 1/2	1.40
8033C	2.54	15/16, 1	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	14 1/2	1.14
8034	3.75	7/8, 1 1/16	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	15 1/2	1.3
8034A	3.75	15/16, 1 1/16	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	15 1/2	1.30
8735	4.14	1, 1 1/8	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	17	2.30
8735A	4.14	1 1/16, 1 1/8	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	17	2.30
8037	5.07	1 1/16, 1 1/4	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	17	2.10
8037A	5.07	1 1/8, 1 1/4	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	19	3.30
8039B	6.79	1 1/4, 1 1/2	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	19	3.30
8039	6.79	1 1/4, 1 1/2	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	19	3.30
8039A	6.79	1 1/2, 1 1/2	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	19	3.30
8040B	\$6.79	1 1/2, 1 1/2	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	21	6.26
8041	7.00	1 1/2, 1 1/2	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	23	5.70
8742B	7.00	1 1/2, 1 1/2	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	23	5.79
8045	11.98	1 1/2, 2	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	25	8.49
8049	15.40	2 3/8, 2 3/8	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	27	10.23
8053	24.68	2 3/8, 2 3/8	1/6, 3/16	1/8, 1/4	1/8, 1/4	1/8, 1/4	30	14.69

Short Pattern—Different Opening in Each Head

No.	Each	Nominal Openings	Extreme Length	Thick. Heads
9723	\$1.19	3/8, 7/16	3	3/32
9725	1.20	7/16, 1/2	3	3/32
9725A	1.20	7/16, 1/2	3	3/32
9725B	1.23	7/16, 1/2	3 1/2	1/8
9025	1.23	7/16, 1/2	3 1/2	1/8
9727	1.30	9/16, 5/8	3 1/2	1/8

Also available in Whitworth Standard or Metric sizes; details on request.

No. 1999 Williams' 12-Point Multisocket Wrenches

Selected Alloy Steel



Has 8 different 12-point openings. The openings grip hex nuts on six sides; no slipping or rounding of the nuts' corners. Swivel heads, with index spring to retain working opening in position for use, permit handle to be operated at practically any angle desired. Can be used as a socket wrench.

Small head, 7/16, 1/2, 9/16 and 19/32 inch; large head, 5/8, 11/16, 3/4 and 7/8 inch.

The entire wrench is drop-forged, heat-treated and finished in zinc-plate. Length, 9 inches. Weight, 1.2 lb.

No. 1999.....each \$6.09

Williams' Supersocket Wrenches

Selected Alloy Steel
Bantam Pattern— $\frac{3}{8}$ -Inch Square Drive



Accurately made from selected alloy steel, heat-treated and chrome plated.

Sockets have thin walls; get in and service "buried" nuts in close and awkward corners.

Furnished regular, extra deep and universal, with 12-point (hex) openings; extra deep with 8-point (square) openings and regular with 6-point (hex) openings. All universal sockets have an operating range of approximately 130° and are fitted with spring tension to maintain operating angle desired.

Crowfoot attachment is designed for use in close quarters and fits all Bantam attachments.

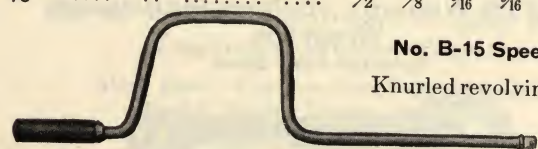
Packed 6 in a box.

Size Open. In.	12-Point Straight Wall Sockets				18-Point Extra Deep For Square Nuts	
	Regular No.	Each	Extra Deep No.	Each	Universal No.	Each
$\frac{5}{16}$	B-1210	\$.67				
$\frac{11}{32}$	B-1211	.67				
$\frac{3}{8}$	B-1212	.67	BD-1212	\$.71	BU-1212	\$2.27
$\frac{7}{16}$	B-1214	.67	BD-1214	.71	BU-1214	2.27
$\frac{1}{2}$	B-1216	.67	BD-1216	.71	BU-1216	2.27
$\frac{17}{32}$	B-1217	.67				
$\frac{9}{16}$	B-1218	.67	BD-1218	.81	BU-1218	2.27
$\frac{19}{32}$	B-1219	.67				
$\frac{5}{8}$	B-1220	.67	BD-1220	.92	BU-1220	2.27
$\frac{11}{16}$	B-1222	.71	BD-1222	1.00	BU-1222	2.58
$\frac{3}{4}$	B-1224	.71	BD-1224	1.08	BU-1224	2.58
$\frac{13}{16}$	B-1226	.77	BD-1226	1.19		
$\frac{7}{8}$	B-1228	.81				

Size Open. In.	6-Point Regular Socket		Crowfoot Wrench Attachment		Amer. Std. Hex. Nut (USS)		Amer. Std. Hex. Cap. (SAE)		Amer. Std. Reg. Nut		Mach. Screw	
	No.	Each	No.	Each	In.	In.	In.	In.	In.	In.	In.	In.
$\frac{1}{4}$	B-608	\$.68									4	
$\frac{5}{16}$	B-610	.71			$\frac{1}{8}$	$\frac{1}{8}$					5, 6	
$\frac{11}{32}$	B-612	.71									8	
$\frac{3}{8}$	B-62	.67	BC-1700	\$1.08		$\frac{3}{16}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	10	
$\frac{7}{16}$	B-614	.67	BC-1701	1.08		$\frac{1}{2}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$	12 & $\frac{1}{4}$	
$\frac{1}{2}$	B-616	.67	BC-1001	1.19		$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$		
$\frac{17}{32}$	B-618	.67	BC-1702	1.23		$\frac{7}{16}$	$\frac{7}{16}$	$\frac{7}{16}$	$\frac{7}{16}$	$\frac{7}{16}$		
$\frac{9}{16}$	B-620	.67	BC-1703	1.23		$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$		
$\frac{11}{16}$	B-622	.71	BC-1003	1.33		$\frac{9}{16}$	$\frac{9}{16}$	$\frac{9}{16}$	$\frac{9}{16}$	$\frac{9}{16}$		
$\frac{3}{4}$	B-624	.79				$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$		
$\frac{13}{16}$												
$\frac{7}{8}$												

No. B-15 Speeders

Knurled revolving grip.



No. B-15, Length, 16 $\frac{1}{2}$ Inches.....each \$2.16



Phillips Screwdriver Socket Attachments

No.	BP-2	BP-3	BP-4
Each.....	\$1.54	1.60	1.60
Phillips Drive No..	2	3	4
Fits Screw Nos.	5 to 9 Incl.	10 to 16 Incl.	18 and Larger



No. B-20A Sliding T Handles

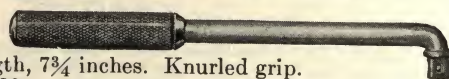
No. B-20A.....each \$1.71
*2 to 2 $\frac{5}{8}$ in. long with cross hole for $\frac{3}{32}$ -in. bar. $\frac{1}{2}$ in. long.

Williams' Supersocket Wrenches

Selected Alloy Steel

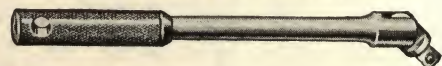
Bantam Pattern— $\frac{3}{8}$ -Inch Square Drive
Handles and Parts

No. B-30 Offset Handles



Length, 7 $\frac{1}{4}$ inches. Knurled grip.
No. B-30.....each \$1.94

No. B-40 Flex Handles

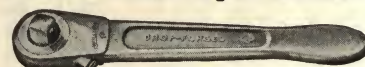


Length, 8 $\frac{1}{2}$ inches. Flexible head. Knurled grip with $\frac{3}{8}$ -inch square drive hole in end and $\frac{3}{8}$ -inch crosshole for sliding bar. May be used as an extension.
No. B-40.....each \$3.10

No. B-42B Sliding Bars

Size, $\frac{5}{16}$ -inch round x 6 inches. For use with No. B-40 flex handles.
Each.....\$.40

No. B-50 Drop Forged Ratchets



Length, 6 $\frac{1}{2}$ inches.
No. B-50, Complete with Plug Connector.....each \$4.58

No. B-50A Drop Forged Ratchets

For refrigeration service. Length, 6 $\frac{1}{2}$ inches. With $\frac{1}{4}$ -inch square drive opening in ratchet wheel and $\frac{1}{4}$ -inch square hole near end of handle. Without plug connector.
No. B-50A.....each \$4.58

No. B-50B Drop Forged Ratchets

Length, 6 $\frac{1}{2}$ inches. With $\frac{5}{16}$ -inch square drive opening. No plug connector.
No. B-50B.....each \$4.58

No. B-51 Reversible Ratchets



Length, 6 $\frac{1}{2}$ inches. Has 24 teeth in ratchet-gear. Turning shift-lever reverses action instantly.
No. B-51.....each \$5.13

No. B-51A Reversible Ratchets

For refrigeration service. Same as No. B-51, but has both $\frac{3}{8}$ -inch square male and $\frac{1}{4}$ -inch square female ratchet drive. Has $\frac{3}{16}$ -inch and $\frac{1}{4}$ -inch square drive holes in handle end.
No. B-51A.....each \$5.13

Extension Bars



No.	B-108	B-110	B-115	B-118
Each.....	\$1.23	1.50	1.71	2.33
Length.....inches	3	5 $\frac{1}{2}$	10 $\frac{1}{2}$	18

Adapters

No. BS-130, $\frac{3}{8}$ -Inch Square Female and $\frac{1}{2}$ -Inch Square Male.....	each \$1.19
No. BS-131, $\frac{3}{8}$ -Inch Square Male and $\frac{1}{2}$ -Inch Square Female.....	each 1.19
No. BM-150, $\frac{3}{8}$ -Inch Square Male and $\frac{1}{4}$ -Inch Square Male.....	each .95



No. B-140 Universal Joints

Approximate operating range, 140°.

No. B-140.....each \$2.27

No. B-150 Ratchet Plug Connector

No. B-150.....each \$.68



No. BC-6 Adjustable Crowfoot Attachments

Capacity, $\frac{3}{4}$ inch.

No. BC-6.....each \$3.03

Williams' Supersocket Wrenches
Selected Alloy Steel
Standard Pattern— $\frac{1}{2}$ -Inch Square Drive



Regular
Straight Wall
12-Point



Regular
Universal
12-Point



Regular
6-Point



Extra Deep
12-Point

Regular Socket is furnished with 12-point, 8-point or 6-point openings. Socket has thin walls for work in cramped quarters. Accurately made from high tensile selected alloy steel, heat-treated and chrome-plated. To use any standard socket ($\frac{1}{2}$ -inch square female drive) with Bantam Handles ($\frac{3}{8}$ -inch square male drive) use adapter No. BS-130.

Extra Deep Socket for spark plug and other services, such as U-Bolts and brake-rod-ends, where the nut lies some distance from outer end of threaded stem. Long slim, with thin walls. The 12-point opening permits operation in close quarters where handle can be swung only 30°. Made from high tensile selected alloy steel, heat treated.

Size Open. In.	Regular Sockets				8-Point Opening				6-Point Opening			
	12-Point Opening, for Hex Nuts—		Universal		No.		Each		No.		Each	
	Str. Wall	No.	Each	No.	No.	No.	No.	No.	No.	No.	No.	No.
$\frac{5}{16}$	ST-1212	.71			ST-810	.88			ST-612	.71		
$\frac{3}{8}$	ST-1214	.71			ST-812	.88			ST-614	.71		
$\frac{7}{16}$	ST-1216	.71	SU-1216	\$2.85	ST-814	.88			ST-616	.71		
$\frac{1}{2}$	ST-1218	.71	SU-1218	2.85	ST-816	.88			ST-618	.71		
$\frac{9}{16}$	ST-1218	.91			ST-818	.88			ST-618	.71		
$\frac{11}{16}$	ST-1219	.71			ST-0818	1.16	SF-618	.92				
$\frac{13}{16}$	ST-1220	.71	SU-1220	2.95	ST-820	.92	ST-620	.71				
$\frac{15}{16}$	ST-1221	.81					ST-621	.81				
1	ST-1222	.81	SU-1222	2.95	ST-822	1.00	ST-622	.81				
$\frac{11}{16}$	ST-1224	.88	SU-1224	2.95	ST-824	1.19	ST-624	.88				
$\frac{3}{4}$	ST-1225	.92					ST-625	.92				
$\frac{25}{32}$	ST-1226	.98					ST-626	.98				
$\frac{13}{16}$	ST-1228	.98			ST-828	1.29	ST-628	.98				
$\frac{15}{16}$	ST-1230	1.08					ST-630	1.08				
$\frac{31}{32}$	ST-1231	1.08										
1	ST-1232	1.08			ST-832	1.50	ST-632	1.08				
$\frac{11}{16}$	ST-1234	1.23										
$\frac{11}{8}$	ST-1236	1.40										
$\frac{13}{16}$	ST-1238	1.44										
$\frac{11}{4}$	ST-1240	1.50										

***Extra Deep 12-Point Sockets**

Size Open. In.	No.	Each	Size Open. In.	No.	Each
$\frac{1}{2}$	SD-1216	\$1.33	$\frac{7}{8}$	SD-1228	\$1.50
$\frac{9}{16}$	SD-1218	1.33	$\frac{17}{32}$	SD-1228T	1.50
$\frac{5}{8}$	SD-1220	1.40	$\frac{15}{16}$	SD-1230	1.60
$\frac{11}{16}$	SD-1222	1.40	1	SD-1232	1.71
$\frac{3}{4}$	SD-1224	1.40	$\frac{11}{16}$	SD-1234	1.81
$\frac{25}{32}$	SD-1225	1.50	$\frac{11}{8}$	SD-1236	1.91
$\frac{13}{16}$	SD-1226	1.50			

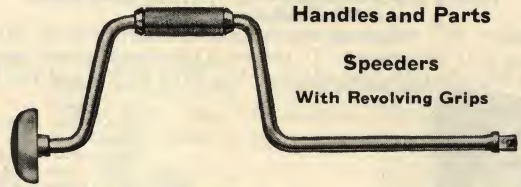
Size Open- ing Inches	For Amer. Std. Heavy Nuts (U.S.S.)	For Amer. Std. Hex Head Screws (S.A.E.)	For Amer. Std. Light Nuts (S.A.E.)	For Amer. Std. Regular Nuts (S.A.E.)
$\frac{5}{16}$
$\frac{3}{8}$..	$\frac{3}{16}$	..	..
$\frac{7}{16}$..	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$
$\frac{1}{2}$..	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$
$\frac{9}{16}$..	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{5}{16}$
$\frac{11}{16}$..	$\frac{7}{16}$	$\frac{7}{16}$	$\frac{3}{8}$
$\frac{3}{4}$..	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{7}{16}$

*Length, $3\frac{1}{4}$ inches.

†All Ford 6, Ford-Mercury V-8, 85 hp., 90 hp. and 100 hp. connecting rods. Use with torque wrench required on models having Marsden self-locking nuts.

‡Extra thin walls.

Williams' Supersocket Wrenches
Selected Alloy Steel
Standard Pattern— $\frac{1}{2}$ -Inch Square Drive
Handles and Parts



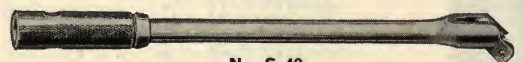
No. S-10, Length, 12 Inches.....each \$3.10
No. S-15, Length, 17 $\frac{1}{2}$ Inches.....each 3.26

No. S-20A Sliding T Handles



Straight handle.
Length, 11 inches.

Flex Handles



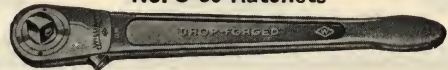
No. S-40

No. S-40 is 12 inches long; has flexible head and knurled grip with $\frac{1}{2}$ -inch square drive hole in end. May be used as extension; $\frac{1}{16}$ -inch round cross hole for bar.

No. S-41 is 17 $\frac{1}{4}$ inches long; has flexible head, knurled grip with $\frac{1}{2}$ -inch square drive hole in end for use as extension, and $\frac{1}{16}$ -inch round cross hole for bar.

No. S-40.....S-40 \$4.40
Each.....S-41 4.96
No. S-42B, Sliding Bar for Nos. S-40 and S-41....each \$5.50

No. S-50 Ratchets



Length, 10 inches.

No. S-50, with Locked-In Plug Connector.....each \$5.72

No. S-50A, without Plug Connector.....each 5.30

No. S-150A, Ratchet Plug Connector Only.....each .87

No. S-51 Reversible Ratchets



Has 24 teeth. Turning shift-lever reverses action.

No. S-51, Length, 10 $\frac{1}{2}$ Inches.....each \$6.48

No. S-52 Reversible Superratchets



Has 82-tooth action. Length, 11 $\frac{1}{4}$ inches.

No. S-52, Weight, 1.2 Pounds.....each \$7.80

No. S-55 Reversible Ratchet Adapters



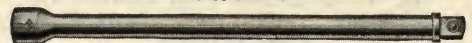
Lgth., $\frac{29}{16}$ in.; o.d., $\frac{1}{4}$ in. Shift-lever reverses action. Male and female connections with $\frac{1}{2}$ -in. sq. drive. Ratchet action possible with speeders, T handles, etc. in close quarters.

No. S-55.....each \$5.44

Plain Extension Bar



No. S-110P



No.	No. S-115P	No. S-110-P	S-115-P	S-121-P
Each.....	\$1.40	1.54	1.96	2.99
Length.....inches	2 $\frac{1}{2}$	5 $\frac{1}{2}$	10 $\frac{1}{2}$	20

Adapters



Sq. female, $\frac{1}{2}$ -in.; sq. male, $\frac{3}{4}$ -in. Adapts standard handles ($\frac{1}{2}$ -in. sq. male drive) to heavy duty sockets ($\frac{3}{4}$ -in. sq. female drive).

No. SH-130.....each \$1.44

No. SH-131, Square Female, $\frac{3}{4}$ Inch;

Square Male, $\frac{1}{2}$ -Inch.....each 1.71

No. S-140 Universal Joints

No. S-140, with 140° Operating Range...ea. 2.85

No. SC-8 Adjustable Crowfoot Attachments

Capacity, $\frac{1}{16}$ inch. Used with any combination of $\frac{1}{2}$ -in. square drive handles or parts.

No. SC-8.....each \$3.51

Williams' Supersocket Wrenches
Selected Alloy Steel
Heavy Duty Pattern— $\frac{3}{4}$ -Inch Square Drive
With 12-Point Opening

Socket will rotate nuts completely where handle can be swung only 30 degrees. To use with standard $\frac{1}{2}$ -inch square male drive handle, use adapter. No. SH-130. Packed 2 in box.



Regular

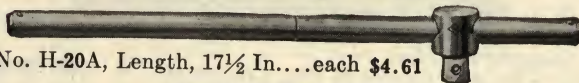


Extra Deep

*Extra deep type designed for U-bolt nuts on buses and trucks and wherever an extra door opening is required. Three in a box.
†Length, $3\frac{1}{4}$ in.
‡Length, $3\frac{1}{2}$ in.

No.	Each	Size Open. In.	Amer. Std. Heavy Nut (U.S.S.) In.	Amer. Std. Hex. Hd. Screws (S.A.E.) In.	Amer. Std. Light Nut In.	Amer. Std. Reg. Nut In.
H-1228	\$1.33	$\frac{7}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{9}{16}$	$\frac{9}{16}$
H-1230	1.44	$1\frac{1}{16}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$
*†HD-1230	2.06	$1\frac{1}{8}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$
H-1231	1.44	$1\frac{1}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
H-1232	1.44	1	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
H-1234	1.60	$1\frac{1}{16}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
*†HD-1234	2.37	$1\frac{1}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
H-1236	1.64	$1\frac{1}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
H-1238	1.75	$1\frac{1}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
H-1240	1.91	$1\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
*†HD-1240	2.90	$1\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
H-1242	2.06	$1\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
H-1244	2.27	$1\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
H-1246	2.43	$1\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
*†HD-1246	3.21	$1\frac{3}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
H-1248	3.05	$1\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
H-1252	3.30	$1\frac{3}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
H-1254	3.41	$1\frac{3}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
H-1256	3.57	$1\frac{3}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
H-1258	3.72	$1\frac{3}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
H-1260	3.99	$1\frac{3}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
H-1264	4.40	2	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
H-1266	5.20	$2\frac{1}{16}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
H-1268	5.44	$2\frac{1}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
H-1270	6.05	$2\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
H-1272	7.51	$2\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$

No. H-20A Sliding T Handles



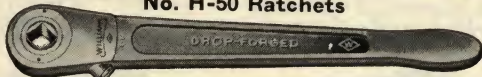
No. H-20A, Length, $17\frac{1}{2}$ In....each \$4.61

No. H-41 Flex Handle



Flexible head, knurled, grip and cross hole for sliding bar.
No. H-41, Length, 20 Inches.....each \$8.55
No. H-41B Sliding Bar, $\frac{3}{4}$ -In. Diam., Lgth., 16 In. ea. .88

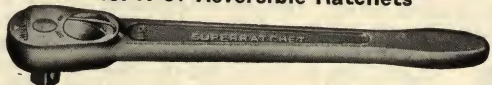
No. H-50 Ratchets



Length, $18\frac{1}{2}$ in.

No. H-50, Comp. with No. H-150 Plug-Connector. ea. \$13.31

No. H-51 Reversible Ratchets



No. H-51, Length, 19 Inches, 24 Teeth in Ratchet Gear, Shift Lever Reverses Action Instantly..each \$14.78

Extension Bars



No....	H-104	H-110	H-115
Each..	\$2.54	3.10	4.09
Lgth. in...	4	8	$15\frac{1}{2}$

No. H-150 Ratchet Plug Connectors

No. H-150.....each \$1.54



Plug Adapters

No. HH-150, with $\frac{5}{8}$ -Inch and $\frac{3}{4}$ -Inch Square Male.....each \$1.94

H-150

HH-150 HNX-151

No. HNX-151, $\frac{3}{4}$ -Inch Square Male and 1-Inch Square Male.....each \$2.09

Adapters

Adapts heavy duty handle to extra heavy duty sockets.

No. HNX-130, $\frac{3}{4}$ -In. Sq. Female and 1-In. Sq. Male; Adapts $\frac{3}{4}$ -In. Sq. Male Drive Handle to 1-In. Sq. Female Drive Socket.....each \$3.05

No. HX-130, $\frac{3}{4}$ -In. Sq. Female and 1-In. Hex. Male; Adapts $\frac{3}{4}$ -In. Sq. Male Drive Handle to 1-In. Female Drive Old Style Socket.....each \$1.94



HNX-130

HX-130

No. H-140 Universal Joints

No. H-140, with 140° Range.....each \$8.13



Williams' Supersocket Wrenches

Selected Alloy Steel

Extra Heavy Duty Pattern—1-Inch Square Drive
With 12-Point Opening



Cross-drilled to receive sliding handle. Will rotate nuts completely where handle can be swung only 30°.

Lock-socket device provides a positive lock between the sockets and attachments.

Made of high tensile steel and heat-treated.

To use extra heavy duty sockets with heavy duty handles ($\frac{3}{4}$ -inch sq. male drive), use adapter No. HNX-130.

No.	Each	Nominal Opening Inches	Amer. Std. Hvy. Nut (U.S.S.) Size Bolt Inches	Amer. Std. Hex Hd. Cap Screw Diam. Inches	Amer. Std. Light Nut (S.A.E.) Size Bolt Inches	Amer. Std. Reg. Nut Size Bolt Inches
NX-1234	\$2.76	$1\frac{1}{16}$	$\frac{5}{8}$	$\frac{7}{8}$	$\frac{3}{4}$	$\frac{3}{4}$
NX-1236	2.76	$1\frac{1}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{3}{4}$	$\frac{3}{4}$
NX-1240	3.03	$1\frac{1}{4}$	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{3}{4}$	$\frac{3}{4}$
NX-1244	3.22	$1\frac{3}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{3}{4}$	$\frac{3}{4}$
NX-1246	3.39	$1\frac{1}{2}$	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{3}{4}$	$\frac{3}{4}$
NX-1248	4.11	$1\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{3}{4}$	$\frac{3}{4}$
NX-1252	4.34	$1\frac{3}{4}$	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{3}{4}$	$\frac{3}{4}$
NX-1258	5.58	$1\frac{13}{16}$	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{3}{4}$	$\frac{3}{4}$
NX-1260	6.41	$1\frac{7}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{3}{4}$	$\frac{3}{4}$
NX-1264	6.89	2	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{3}{4}$	$\frac{3}{4}$
NX-1268	8.86	$2\frac{1}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{3}{4}$	$\frac{3}{4}$
NX-1270	8.96	$2\frac{1}{16}$	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{3}{4}$	$\frac{3}{4}$
NX-1272	9.59	$2\frac{1}{4}$	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{3}{4}$	$\frac{3}{4}$
NX-1276	11.35	$2\frac{3}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{3}{4}$	$\frac{3}{4}$
NX-1280	14.46	$2\frac{1}{2}$	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{3}{4}$	$\frac{3}{4}$
*NX-1282	16.54	$2\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{3}{4}$	$\frac{3}{4}$
*NX-1284	17.57	$2\frac{3}{4}$	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{3}{4}$	$\frac{3}{4}$
*NX-1288	19.65	$2\frac{7}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{3}{4}$	$\frac{3}{4}$
*NX-1294	24.84	$2\frac{15}{16}$	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{3}{4}$	$\frac{3}{4}$
*NX-12100	30.00	$3\frac{1}{8}$	2	$\frac{7}{8}$	$\frac{3}{4}$	$\frac{3}{4}$

*Made with short neck and no cross-hole.

No. NX-20B Sliding Handles

No. NX-20B, Length, 20 Inches.....each \$4.40

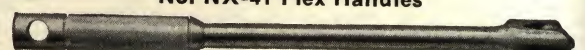
No. NX-20C Adapters

For sliding handle No. NX-20B.

No. NX-20C.....each \$4.30

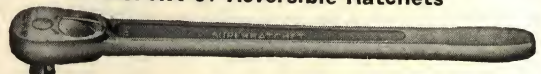


No. NX-41 Flex Handles



No. NX-41, Length, 27 Inches; Flexible Head, Knurled Grip, Cross-Hole for Sliding Bar No. H-41-B. each \$28.98

No. NX-51 Reversible Ratchets



No. NX-51, Length, 25 Inches; 24 Teeth in Ratchet Gear.....each \$44.53

Extension Bars



No.....	NX-110	NX-115
Each....	\$6.48	8.24
Lgth. in.	9	18

No. X-150 Ratchet Plug-Connectors

No. X-150.....each \$3.68



Adapters

No. XX-130, with 1-inch Square Female and 1-Inch Hexagon Male.....each \$5.04

No. XX-131, with 1-Inch Hexagon Female and 1-Inch Square Male.....each 5.04

No. XX-150, with 1-Inch Square Male and 1-Inch Hexagon Male.....each 4.11



No. XX-130

No. XX-150

4 Series Williams' Impact Supersockets

1/2-Inch Square Drive
Male Square, .626—.628 Inches
Female Square, .628—.631 Inches



Type B
Alternate
Alloy steel, heat treated.

Type A
Alternate

Type A
Impact

Type B
Impact

Standard Length—Single Hexagon Opening

FOR AMER. STD. HEX
NUTS AND CAP SCREWS—
Heavy Hex. Light Ma-
chine NutHead Nut
(U.S.-Cap-(S.A.-Screw

No.	Each	Nom. Opening In.	S. Screw Size In.	E. Bolt In.	Hex Nut No. or In.	Type	Diam. Drive End	Lgth. Over- all	Depth Nom. Opening
4-612	\$.55	3/8	1/4	3/16	*10	A	1.003	.628 1 1/2	.291
4-614	.55	1/2	1/4	1/4	1/4, *12	A	1.003	.706 1 1/2	.338
4-616	.55	1/2	1/4	3/16	3/16	A	1.065	.784 1 1/2	.385
4-618	.55	9/16	3/8	3/8	5/16	A	1.065	.879 1 1/2	.447
4-619	.55	19/32	3/16	3/16	3/8	A	1.065	.909 1 1/2	.447
4-620	.55	5/8	1/2	1/2	3/8	A	1.128	.956 1 1/2	.478
4-622	.59	11/16	3/8	3/8	1/2	A	1.128	1.034 1 1/2	.525
4-624	.59	3/4	1/2	1/2	1/2	B	1.128	1.128 1 1/2	.572
4-625	.64	25/32	1/2	1/2	1/2	B	1.128	1.143 1 1/2	.603
4-626	.69	13/16	5/8	5/8	1/2	B	1.128	1.190 1 1/2	.619
4-628	.74	7/8	1/2	5/8	9/16	B	1.128	1.315 1 1/2	.666
4-630	.84	15/16	5/8	5/8	1/2	B	1.315	1.378 1 1/2	.713
4-632	.89	1	3/4	3/4	5/8	B	1.315	1.440 1 3/4	.760
4-634	.99	1 1/16	5/8	3/4	1	B	1.315	1.518 2	.806
4-636	1.32	1 1/8	1	1	1	B	1.315	1.612 2	.853
4-638	1.38	1 3/16	1 1/8	1 1/8	1 1/8	B	1.315	1.690 2	.885
4-640	1.43	1 1/4	1 1/8	1 1/8	1 1/8	B	1.315	1.768 2	.947

Standard Length—Alternate Design—Single Hex Openings

Straight wall sockets without band groove recess.

No.	Each	Nom. Opening In.	S. Screw Size In.	E. Bolt In.	Hex Nut No. or In.	Type	Diam. Drive End	Lgth. Over- all	Depth Nom. Opening
A4-612	\$.55	3/8	1/4	3/16	*10	A	.878	.608 1 1/2	.291
A4-614	.55	1/2	1/4	1/4	1/4, *12	A	.878	.691 1 1/2	.338
A4-616	.55	1/2	1/4	3/16	3/16	A	.940	.776 1 1/2	.385
A4-618	.55	9/16	3/8	3/8	5/16	A	.940	.857 1 1/2	.447
A4-619	.55	19/32	3/16	3/16	3/8	B	.899	.899 1 1/2	.447
A4-620	.55	5/8	1/2	1/2	3/8	B	.944	.944 1 1/2	.478
A4-622	.59	11/16	3/8	3/8	1/2	B	1.025	1.025 1 1/2	.525
A4-624	.59	3/4	1/2	1/2	1/2	B	1.108	1.108 1 1/2	.572
A4-626	.69	13/16	5/8	5/8	1/2	B	1.190	1.190 1 1/2	.619
A4-628	.74	7/8	1/2	5/8	9/16	B	1.271	1.271 1 1/2	.666
A4-630	.84	15/16	5/8	5/8	1/2	B	1.357	1.357 1 3/4	.713
A4-632	.89	1	3/4	3/4	5/8	B	1.440	1.440 1 3/4	.760
A4-634	.99	1 1/16	5/8	3/4	1	B	1.525	1.525 2	.806

Standard Length—Double Square, 8-Point Openings for Square Nuts

No.	Each	Nom. Opening In.	S. Screw Size In.	E. Bolt In.	Hex Nut No. or In.	Type	Diam. Drive End	Lgth. Over- all	Depth Nom. Opening
4-812	\$.69	3/8	1/4	3/16	*10	A	.878	.715 1 1/2	.291
4-814	.69	1/2	1/4	1/4	1/4, *12	A	.940	.817 1 1/2	.338
4-816	.69	1/2	1/4	3/16	3/16	A	1.003	.916 1 1/2	.385
4-818	.74	9/16	3/8	3/8	5/16	A	1.128	1.014 1 1/2	.447
4-820	.79	5/8	1/2	1/2	3/8	A	1.128	1.108 1 1/2	.478
4-824	.95	3/4	1/2	1/2	1/2	B	1.315	1.315 1 1/2	.572
4-826	.99	13/16	5/8	5/8	1/2	B	1.407	1.407 1 1/2	.619
4-828	1.09	7/8	1/2	5/8	9/16	B	1.516	1.516 1 1/2	.666
4-830	1.25	15/16	5/8	5/8	1/2	B	1.612	1.612 1 3/4	.713
4-832	1.29	1	3/4	3/4	5/8	B	1.719	1.719 1 3/4	.760

Bolt Clearance Length—Single Hexagon Openings

No.	Each	Nom. Opening In.	S. Screw Size In.	E. Bolt In.	Hex Nut No. or In.	Type	Diam. Drive End	Lgth. Over- all	Depth Nom. Opening
14-612	\$1.19	3/8	1/4	3/16	*10	A	.878	.608 3/4	.291
14-614	1.19	1/2	1/4	1/4	1/4, *12	A	.878	.691 3/4	.338
14-616	1.19	1/2	1/4	3/16	3/16	A	.940	.776 3/4	.385
14-618	1.19	9/16	3/8	3/8	5/16	A	.940	.857 3/4	.447
14-620	1.19	5/8	1/2	1/2	3/8	B	.940	.940 3/4	.478
14-622	1.19	11/16	3/8	3/8	1/2	B	1.025	1.025 3/4	.525
14-624	1.23	3/4	1/2	1/2	1/2	B	1.108	1.108 3/4	.572
14-626	1.23	13/16	5/8	5/8	1/2	B	1.190	1.190 3/4	.619
14-628	1.33	7/8	1/2	5/8	9/16	B	1.276	1.276 3/2	.666
14-630	1.58	15/16	5/8	5/8	1/2	B	1.357	1.357 3/2	.713
14-632	1.58	1	3/4	3/4	5/8	B	1.440	1.440 3/2	.760

Standard Length—Single Hexagon Openings for Hardened and Self-Tapping Screws

Copper plated for positive identification.

No.	Each	Nom. Opening In.	S. Screw Size In.	E. Bolt In.	Hex Nut No. or In.	Type	Diam. Drive End	Lgth. Over- all	Depth Nom. Opening
24-612	\$.74	3/8	1/4	3/16	†14, †14	A	.878	.628 1 1/2	.205
24-614	.74	1/2	1/4	1/4	†14	A	.878	.691 1 1/2	.250
24-616	.84	1/2	1/4	3/16	†15/16	A	.940	.753 1 1/2	.245
24-618	.89	9/16	3/8	3/8	†13/8	A	1.003	.878 1 1/2	.310

*American Standard machine screw and stove-bolt nuts.
†American Standard hex head tapping screw.

4 Series Williams' Impact Supersockets

1/2-Inch Square Drive
Male Square, .501—.503 Inch
Female Square, .504—.506 Inch

Alloy steel, heat-treated.

Standard Length—Single Hex Openings

For Zerk Type Lubrication Fittings

Copper Plated for Positive Identification

No.	Each	Nom. Opening In.	GMC No.	Type C Fitting	Type	Diam. Drive End	Lgth. Over- all	Depth Nom. Opening
24-612B	\$1.39	3/8	110309	Elbow, 45°	A	.878	.628 1 1/2	.416
			191350	Elbow, 85-90°				
24-614B	1.39	1/2	109350	Elbow, 67 1/2°	A	.878	.691 1 1/2	.478
			109353	Elbow, 30°				
			109354	Elbow, 85-90°				
			145435	Spec. Taper Dr., 67 1/2°				
			145436	Spec. Taper Dr., 85-90°				
			119512	Straight				
24-614	.74	1/2	145433	Spec. Taper Dr., Strght.	A	.878	.691 1 1/2	.250

Standard Length—Surface Drive Single Hexagon Openings



Type A

Type B

Thin Nose

FOR AMER. STD. HEX
NUTS AND CAP SCREWS—
Heavy Hex. Light Ma-
chine NutHead Nut
(U.S.-Cap-(S.A.-Screw

No.	Each	Nom. Opening In.	S. Screw Size In.	E. Bolt In.	Hex Nut No. or In.	Type	Diam. Drive End	Lgth. Over- all	Depth Nom. Opening
A4-614A	\$.55	1/2	1/4	1/4	1/4, *12	A	.878	.691 1 1/2	.338
A4-616A	.55	1/2	1/4	3/16	3/16	A	.940	.776 1 1/2	.385
A4-618A	.55	9/16	3/8	3/8	5/16	A	.940	.857 1 1/2	.447
A4-620A	.55	5/8	1/2	1/2	3/8	B	.944	.944 1 1/2	.478
A4-622A	.59	11/16	3/8	3/8	1/2	B	1.025	1.025 1 1/2	.525
A4-624A	.59	3/4	1/2	1/2	1/2	B	1.108	1.108 1 1/2	.572
A4-626A	.69	13/16	5/8	5/8	1/2	B	1.190	1.190 1 1/2	.619
A4-628A	.74	7/8	1/2	5/8	9/16	B	1.271	1.271 1 1/2	.666

Standard Length—Thin Nose Surface Drive Single Hexagon Openings

No.	Each	Nom. Opening In.	S. Screw Size In.	E. Bolt In.	Hex Nut No. or In.	Type	Diam. Drive End	Lgth. Over- all	Depth Nom. Opening
34-614A	\$.55	1/2	1/4	1/4	1/4, *12	..	.878	.671 1 1/2	.338
34-616A	.55	1/2	1/4	3/16	3/16	..	.940	.753 1 1/2	.385
34-618A	.55	9/16	3/8	3/8	5/16	..	.940	.831 1 1/2	.447

Accessories Extensions



No. 4-105

Male squares have through pin hole. Male squares have im-
prisoned spring and plunger..

No.	Each	Lgth. In.	Sq. Male In.	Sq. Fem. In.	No.	Each	Lgth. In.	Sq. Male In.	Sq. Fem. In.
4-105	\$1.19	5	1 1/2	1 1/2	4-105A	\$1.19	5	1 1/2	1 1/2
4-110	1.43	10	1 1/2	1 1/2	4-110A	1.43	10	1 1/2	1 1/2

No. 7-64 Hexagon—Square Shanks



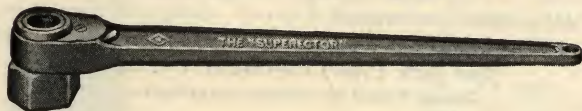
Male squares have through pin hole. Male squares have im-
prisoned spring and plunger.

No.	Each	Lgth. In.	Sq. Male In.	Sq. Fem. In.	No.	Each	Lgth. In.	Sq. Male In.	Sq. Fem. In.
4-33	\$1.32	2 3/4	1 1/2	1 1/2	4-33A	\$1.32	2 3/4	1 1/2	1 1/2
4-35	1.49	5	1 1/2	1 1/2	4-35A	1.49	5	1 1/2	1 1/2
4-53	1.33	3	1 1/2	5/8	4-53A	1.33	3	1 1/2	5/8
4-55	1.54	5	1 1/2	5/8	4-55A	1.54	5	1 1/2	5/8

*American standard machine screw and stove-bolt nuts.

Williams' Superector Reversible Ratchet Heavy Duty Wrenches

With Quadruple Pawls and Drop-Forged Handle



Hex Socket

For bridge, structural, and other work requiring fast, dependable tools of rugged strength.

Heat-treated sockets have hole extending through center so that nuts may be turned on any length of bolt.



Square Socket

Wrench provides increased bearing and strength by 2 pawls engaging 2 teeth for both on and off rotation of nuts. All 4 pawls are of hardened tool steel, designed to provide the sturdiest construction possible. Wrench has 20 teeth in all socket gears; consequently, all wrenches will rotate nuts with only an 18° swing of the wrench. Shifter lever, when in neutral, completely disengages all pawls for easy insertion and removal of socket. A flip of the lever reverses the action of the wrench. Socket retaining collar has projection on inner surface which registers easily with corresponding slot in neck of socket. Cover plate, securely seated in wrench head, is fastened by 1 screw.

Wrenches and sockets finished in light metallic gray enamel.

Wrenches

No.	E1-24	E1-36	E2-26	E2-48	E3-48
Wrench Only..each	\$21.82	34.30	43.67	56.14	87.32
Length.....inches	24	36	36	48	53

Sockets

For Nos. E1-24 and E1-36 Wrenches Only

Nominal Opening Size Across Flats Inches	No. Hex. Socket	No. Square Socket	Hex. or Square Socket Only Each	For U.S. Std. Nuts and Amer. Std. Hvy. Nut Hex. or Sq. Inches	For S.A.E. Std. Nut Hex. Inches	For Amer. Std. Reg. Nuts Hex. or Sq. Inches
1	.....	E1-416	\$6.73	...	...	5/8
1 1/16	E1-617	E1-417	6.73	5/8	3/4	...
1 1/8	E1-618	E1-418	6.80	...	...	3/4
1 1/4	E1-620	E1-420	6.93	3/4	7/8	...
1 5/16	E1-621	E1-421	7.06	...	...	7/8
1 3/8	E1-623	E1-423	7.22	7/8	1	...
1 1/2	E1-624	E1-424	7.35	...	...	1
1 5/8	E1-626	E1-426	7.48	1	1 1/8	...
1 11/16	E1-627	.....	7.63	...	...	1 1/8
1 3/4	E1-628	.....	7.77	...	...	...
1 13/16	E1-629	E1-429	7.83	1 1/8	1 1/4	...
1 7/8	E1-630	E1-430	7.96	...	...	1 1/4
2	E1-632	E1-432	8.18	1 1/4	1 3/8	...
2 1/16	E1-633	.....	8.32	...	...	1 3/8
2 3/16	E1-635	E1-435	8.60	1 3/8	1 1/2	...
2 1/4	E1-636	E1-436	8.87	...	...	1 1/2

For Nos. E2-36 and E2-48 Wrenches Only

	No.	No.			
2	E2-632	E2-432	\$13.44	1 1/4	1 3/8
2 3/16	E2-635	E2-435	13.86	1 3/8	1 1/2
2 3/8	E2-638	E2-438	14.41	1 1/2	...
2 9/16	E2-641	E2-441	14.96	1 5/8	...
2 3/4	E2-644	E2-444	15.66	1 3/4	...
2 15/16	E2-647	E2-447	16.43	1 7/8	...
3 1/8	E2-650	E2-450	17.18	2	...

For No. E3-48 Wrench Only

	No.	No.			
3 1/8	E3-650	E3-450	\$27.85	2	...
3 1/2	E3-656	E3-456	28.82	2 1/4	...
3 3/8	E3-662	E3-462	29.94	2 1/2	...
4 1/4	E3-668	E3-468	31.26	2 3/4	...
4 5/8	E3-674	E3-474	32.78	3	...

No. NM-1 Williams' Supersocket Wrench Sets

Midget Pattern—1/4-Inch Square Drive
Selected Alloy Steel

An 11-piece set complete in metal case, 1 1/8x2 1/8x7 inches.

Contents



Midget Supersockets

No.	Each	Open., In.
NM-606	\$.46	3/16, Hex.
NM-607	.46	7/32, Hex.
NM-608	.46	1/4, Hex.
NM-609	.46	9/32, Hex.
NM-1210	.46	5/16, 12-Pt.
NM-1211	.46	11/32, 12-Pt.
NM-1212	.46	3/8, 12-Pt.
NM-1214	.46	7/16, 12-Pt.
NM-1216	.46	1/2, 12-Pt.

Handles and Parts

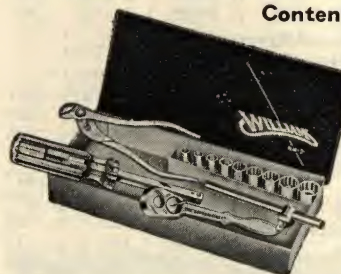
No.	Each	Description
NM-20A	\$1.19	4 1/2-Inch Sliding T Handle.....
NM-106	1.29	Extension Driver with Plastic Grip.....
.....	2.24	2-Color Steel Case Only; Wt., 5/8 Lb.
No. NM-1; Weight, 1 1/8 Pounds.....	per set	\$8.85

No. NM-2 Williams' Supersocket Wrench Sets

Midget Pattern—1/4-Inch Square Drive
Selected Alloy Steel

A 13-piece set complete in metal case, 1 1/8x3 1/4x7 1/2 inches.

Contents



Midget Supersockets

No.	Each	Open., In.
NM-606	\$.46	3/16, Hex.
NM-607	.46	7/32, Hex.
NM-608	.46	1/4, Hex.
NM-609	.46	9/32, Hex.
NM-1210	.46	5/16, 12-Pt.
NM-1211	.46	11/32, 12-Pt.
NM-1212	.46	3/8, 12-Pt.
NM-1214	.46	7/16, 12-Pt.
NM-1216	.46	1/2, 12-Pt.

Handles and Parts

No.	Each	Description
NM-20A	\$1.19	4 1/2-Inch Sliding T Handle.
NM-51	3.61	4 1/2-Inch Reversible Ratchet.
NM-106	1.29	Extension Driver with Plastic Grip.
1519	2.04	Midget Superplier, 4 1/2 Inches Long.
.....	2.61	2-Color Steel Case Only; Wt., 7/8 Lb.
No. NM-2; Weight, 1 5/8 Pounds.....	per set	\$14.85

No. B-1 William's Supersocket Wrench Sets

Bantam Pattern—3/8-Inch Square Drive
Selected Alloy Steel

An 11-piece set, complete in metal case 1 1/4x2 1/4x7 3/4 inches.

Contents



Single Hex, Taper Nose Opening

No.	Each	Open., In.
B-608	\$.68	1/4
Standard Supersockets 12-Point		
B-1210	\$.67	5/16
B-1211	.67	11/32
B-1212	.67	3/8
B-1214	.67	7/16
B-1216	.67	1/2
B-1218	.67	9/16
B-1220	.67	5/8
B-1222	.67	11/16
B-1224	.67	3/4

Parts

No.	Each	Description
No. B-51, 6 1/2-In. Reversible Ratchet with 24 Teeth in Ratchet Gear.....	each	\$5.13
2-Color Steel Case Only; Wt., 3/4 Lb.....	each	2.18
No. B-1.....	per set	14.10

No. B-4 Williams' Supersocket Wrench Sets

Bantam Pattern— $\frac{3}{8}$ -Inch Square Drive
Selected Alloy Steel



An 18-piece set complete in metal case, $1\frac{1}{4} \times 5\frac{1}{4} \times 17\frac{3}{4}$ inches.

Contents

Bantam Supersockets

No.	Each	Open., In.	No.	Each	Open., In.
B- 608	\$.68	$\frac{1}{4}$, Hex.	B-1216	\$.67	$\frac{1}{2}$, 12-Pt.
B-1210	.67	$\frac{5}{16}$, 12-Pt.	B-1218	.67	$\frac{9}{16}$, 12-Pt.
B-1211	.67	$\frac{11}{32}$, 12-Pt.	B-1220	.67	$\frac{5}{8}$, 12-Pt.
B-1212	.67	$\frac{3}{8}$, 12-Pt.	B-1222	.71	$\frac{11}{16}$, 12-Pt.
B-1214	.67	$\frac{7}{16}$, 12-Pt.	B-1224	.71	$\frac{3}{4}$, 12-Pt.

Handles and Parts

No.	Each	Description
B-15	\$2.16	16 $\frac{1}{2}$ -Inch Speeder, Revolving Grip
B-20A	1.71	6 $\frac{1}{2}$ -Inch Sliding T Handle
B-40	3.10	8 $\frac{1}{2}$ -Inch Flex Handle
B-51	5.13	6 $\frac{1}{2}$ -Inch Reversible Ratchet
B-108	1.23	3-Inch Extension Bar
B-110	1.50	5 $\frac{1}{2}$ -Inch Extension Bar
B-115	1.71	10 $\frac{1}{2}$ -Inch Extension Bar
B-140	2.27	Universal Joint, Range Approx. 140°
.....	3.51	2-Color Steel Case Only; Wt., 2 $\frac{5}{8}$ Lb.

Weight, 6 $\frac{3}{8}$ pounds.

No. B-4.....per set \$29.10

No. S-2 Williams' Supersocket Wrench Sets

Standard Pattern— $\frac{1}{2}$ -Inch Square Drive
Selected Alloy Steel

A 9-piece set complete in metal case, $2\frac{1}{8} \times 3 \times 12\frac{1}{2}$ inches.

Contents

Standard Supersockets, 12-Point

No.	Each	Open., In.
ST-1216	\$.71	$\frac{1}{2}$
ST-1219	.71	$\frac{19}{32}$
ST-1222	.81	$\frac{11}{16}$
ST-1225	.92	$\frac{25}{32}$
ST-1228	.98	$\frac{7}{8}$
ST-1231	1.08	$\frac{31}{32}$
ST-1234	1.23	$\frac{1}{16}$
ST-1240	1.50	$\frac{1}{4}$

Parts

No. S-52, 11 $\frac{1}{4}$ -Inch Reversible Ratchet.....	each	\$7.80
2-Color Steel Case Only; Weight, 1 $\frac{5}{8}$ Lb.....	each	2.73
No. S-2, Weight, 5 $\frac{1}{8}$ Pounds.....	per set	18.45

Williams' Drag-Link Socket Bits

$\frac{1}{2}$ -Inch Square Drive

For slotted stud on drag-link of steering-gear; also tie-rod connecting steering-knuckles.

No.	Size Blade.....inches	SB-30	SB-40
Each.....		$\frac{7}{8} \times 1\frac{15}{16}$	$\frac{3}{32} \times 1\frac{1}{4}$
		\$1.19	1.23



No. S-4 Williams' Supersocket Wrench Sets

Standard Pattern— $\frac{1}{2}$ -Inch Square Drive
Selected Alloy Steel



A 20-piece set, complete in metal case, $2\frac{1}{8} \times 3\frac{3}{4} \times 12$ inches.

Contents

Standard Supersockets, 12-Point

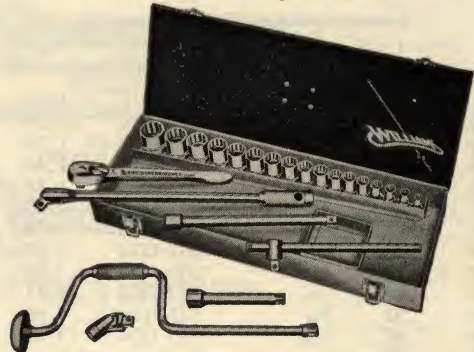
No.	Each	Open. In.	No.	Each	Open. In.
ST-1212	\$.71	$\frac{3}{8}$	ST-1228	\$.98	$\frac{7}{8}$
ST-1214	.71	$\frac{7}{16}$	ST-1230	1.08	$\frac{15}{16}$
ST-1216	.71	$\frac{1}{2}$	ST-1231	1.08	$\frac{31}{32}$
ST-1218	.71	$\frac{9}{16}$	ST-1232	1.08	1
ST-1219	.71	$\frac{19}{32}$	ST-1234	1.23	$\frac{1}{16}$
ST-1220	.71	$\frac{5}{8}$	ST-1236	1.40	$\frac{1}{8}$
ST-1221	.81	$\frac{21}{32}$	ST-1238	1.44	$\frac{13}{16}$
ST-1222	.81	$\frac{11}{16}$	ST-1240	1.50	$\frac{1}{4}$
ST-1224	.88	$\frac{3}{4}$	.....	.....	.....
ST-1225	.92	$\frac{25}{32}$	.....	.....	.....
ST-1226	.98	$\frac{13}{16}$	.....	.....	.....

Handles and Parts

No.	Each	Description
S-52	\$7.80	Reversible Ratchet, 11 $\frac{1}{4}$ Inches Long; 82 Teeth in Ratchet-Gear.
.....	3.03	2-Color Steel Case Only; Weight, 1 $\frac{5}{8}$ Lb.
No. S-4; Weight, 8 $\frac{1}{8}$ Pounds.....	per set	\$29.25

No. S-5 Williams' Supersocket Wrench Sets

Standard Pattern— $\frac{1}{2}$ -Inch Square Drive
Selected Alloy Steel



A 24-piece set complete in metal case, $2\frac{1}{4} \times 7\frac{1}{2} \times 20\frac{3}{4}$ inches.

Contents

Standard Supersockets, 12-Point

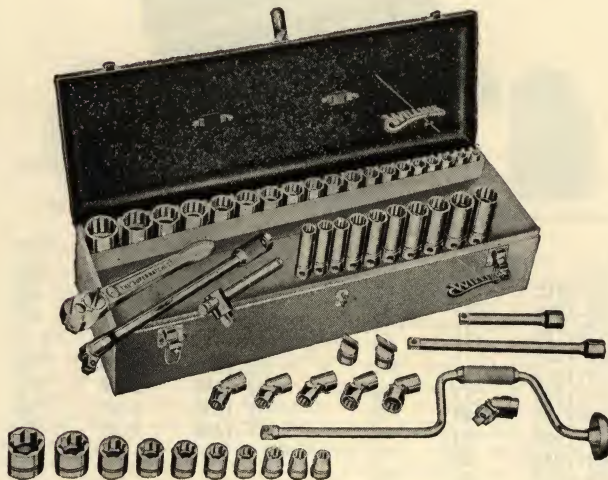
No.	Each	Open. In.	No.	Each	Open. In.	No.	Each	Open. In.
ST-1212	\$.71	$\frac{3}{8}$	ST-1222	\$.81	$\frac{11}{16}$	ST-1231	\$1.08	$\frac{31}{32}$
ST-1214	.71	$\frac{7}{16}$	ST-1224	.88	$\frac{3}{4}$	ST-1232	1.08	1
ST-1216	.71	$\frac{1}{2}$	ST-1225	.92	$\frac{25}{32}$	ST-1234	1.23	$\frac{1}{16}$
ST-1218	.71	$\frac{9}{16}$	ST-1226	.98	$\frac{13}{16}$	ST-1236	1.40	$\frac{1}{8}$
ST-1219	.71	$\frac{19}{32}$	ST-1228	.98	$\frac{7}{8}$	ST-1240	1.50	$\frac{1}{4}$
ST-1220	.71	$\frac{5}{8}$	ST-1230	1.08	$\frac{15}{16}$	.....	.....	.....

Handles and Parts

No.	Each	Description
S-15	\$3.26	17 $\frac{1}{2}$ -Inch Speeder with Revolving Grips.
S-20A	2.37	11-Inch Sliding T Handle.
S-41	4.96	17 $\frac{1}{4}$ -Inch Flex Handle.
S-52	7.80	11 $\frac{1}{4}$ -Inch Reversible Ratchet.
S-110P	1.54	5 $\frac{1}{2}$ -Inch Extension Bar.
S-115P	1.96	10 $\frac{1}{2}$ -Inch Extension Bar.
S-140	2.85	Universal Joint, Range Approx. 140°.
.....	11.80	2-Color Steel Case Only; Wt., 6 Lb.
No. S-5; Weight, 18 Pounds.....	per set	\$52.65

No. S-7 Williams' Supersocket Wrench Sets

Standard Pattern— $\frac{1}{2}$ -In. Sq. Drive—Selected Alloy Steel



A 44-piece set, in metal case $5\frac{3}{8} \times 7\frac{1}{2} \times 23\frac{1}{4}$ inches.

Contents

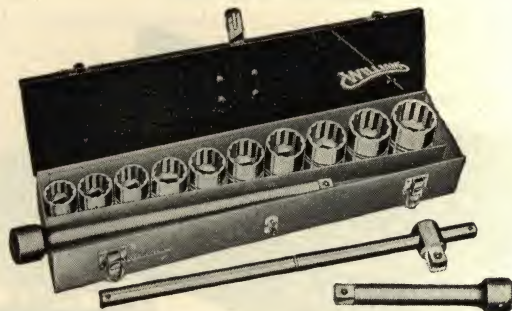
Supersockets with 12-Point Openings

Standard			Standard Extra Deep		
No.	Each	Open. In.	No.	Each	Open. In.
ST-1212	\$.71	$\frac{3}{8}$	SD-1216	\$1.33	$\frac{1}{2}$
ST-1214	.71	$\frac{7}{16}$	SD-1218	1.33	$\frac{9}{16}$
ST-1216	.71	$\frac{1}{2}$	SD-1220	1.40	$\frac{5}{8}$
ST-1218	.71	$\frac{9}{16}$	SD-1222	1.40	$\frac{11}{16}$
ST-1219	.71	$\frac{19}{32}$	SD-1224	1.40	$\frac{3}{4}$
ST-1220	.71	$\frac{5}{8}$	SD-1226	1.50	$\frac{13}{16}$
ST-1221	.81	$\frac{21}{32}$	SD-1228	1.50	$\frac{7}{8}$
ST-1222	.81	$\frac{11}{16}$	SD-1230	1.60	$\frac{15}{16}$
ST-1224	.88	$\frac{3}{4}$	SD-1232	1.71	1
ST-1225	.92	$\frac{25}{32}$	SD-1234	1.81	$\frac{11}{16}$
ST-1226	.98	$\frac{13}{16}$	SD-1236	1.91	$\frac{11}{8}$
ST-1228	.98	$\frac{7}{8}$			
ST-1230	1.08	$\frac{15}{16}$	Standard Universal Supersockets		
ST-1231	1.08	$\frac{31}{32}$	SU-1216	\$2.85	$\frac{1}{2}$
ST-1232	1.08	1	SU-1218	2.85	$\frac{9}{16}$
ST-1234	1.23	$\frac{11}{16}$	SU-1220	2.95	$\frac{5}{8}$
ST-1236	1.40	$\frac{11}{8}$	SU-1222	2.95	$\frac{11}{16}$
ST-1238	1.44	$\frac{13}{16}$	SU-1224	2.95	$\frac{3}{4}$
ST-1240	1.50	$\frac{11}{4}$	.....	....	..

No.	Each	Description
S-15	\$3.26	17 $\frac{1}{2}$ -Inch Speeder; Revolving Grips.
S-20A	2.37	11-Inch Sliding T Handle.
S-41	4.96	17 $\frac{1}{4}$ -Inch Flex Handle.
S-52	7.80	11 $\frac{1}{4}$ -Inch Reversible Ratchet.
S-110P	1.54	5 $\frac{1}{2}$ -Inch Extension Bar.
S-115P	1.96	10 $\frac{1}{2}$ -Inch Extension Bar.
S-140	2.85	Universal Joint; Approx. Range, 140°.
SB-30	1.19	Drag Link Socket Bit; $\frac{15}{16}$ -Inch Blade.
SB-40	1.23	Drag Link Socket Bit; $\frac{11}{4}$ -Inch Blade.
.....	15.97	2-Color Steel Case Only; 8 $\frac{3}{8}$ Lb.
No. S-7; Weight, 27 Pounds.....per set \$93.00		

No. H-2 Williams Supersocket Wrench Sets

Heavy Duty Pattern— $\frac{3}{4}$ -Inch Square Drive
Selected Alloy Steel



A 13-piece set complete in metal case, $2\frac{3}{4} \times 4\frac{1}{2} \times 19\frac{3}{4}$ inches.

Contents

Heavy Duty Supersockets, 12-Point

No.	Each	Open., In.	No.	Each	Open., In.
H-1234	\$1.60	$\frac{1}{16}$	H-1244	\$2.27	$\frac{13}{8}$
H-1236	1.64	$\frac{1}{8}$	H-1246	2.43	$\frac{17}{16}$
H-1238	1.75	$\frac{1}{16}$	H-1248	3.05	$\frac{11}{2}$
H-1240	1.91	$\frac{1}{4}$	H-1252	3.30	$\frac{15}{8}$
H-1242	2.06	$\frac{1}{16}$	H-1256	3.57	$\frac{13}{4}$

Handles and Parts

No.	Each	Description
H-20A	\$4.61	17 $\frac{1}{2}$ -Inch Sliding T Handle
H-110	3.10	8-Inch Extension Bar
H-115	4.09	15 $\frac{1}{2}$ -Inch Extension Bar
.....	10.89	2-Color Steel Case Only; Wt. 4 $\frac{3}{4}$ Lb.

Weight, 20 $\frac{3}{4}$ pounds.

No. H-2.....per set \$46.20

Williams' Supersocket Wrench Adapters

Selected Alloy Steel

For Handles and Sockets



Convenient for the mechanic, an adapter makes possible the use of sockets having a given size drive-opening, with handles and parts of different size driving member.

For example: Adapter BS-130 permits the use of Bantam handles, $\frac{3}{8}$ -inch square drive, with standard sockets, $\frac{1}{2}$ -inch square drive.

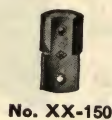
Adapters listed in table below make possible the application of the above principle to all patterns of sockets with $\frac{1}{4}$, $\frac{9}{32}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, and 1-inch drive openings.

With Female and Male Ends

No.	Each	OPENINGS, INCHES	
		Female End	Male End
MB-130	\$1.16	$\frac{1}{4}$ -In. Square	$\frac{3}{8}$ -In. Square
MB-131	1.16	$\frac{3}{8}$ -In. Square	$\frac{1}{4}$ -In. Square
BS-130	1.19	$\frac{3}{8}$ -In. Square	$\frac{1}{2}$ -In. Square
HX-130	1.94	$\frac{3}{4}$ -In. Square	1-In. Hex.
SH-130	1.44	$\frac{1}{2}$ -In. Square	$\frac{3}{4}$ -In. Square
SH-131	1.71	$\frac{3}{4}$ -In. Square	$\frac{1}{2}$ -In. Square
XX-130	5.04	1-In. Square	1-In. Hex.
XX-131	5.04	1-In. Hex.	1-In. Square
HXX-130	3.05	$\frac{3}{4}$ -In. Square	1-In. Square
BS-131	1.19	$\frac{1}{2}$ -In. Square	$\frac{3}{8}$ -In. Square

With Male Ends Only

No.	Each	OPENINGS, INCHES	
		Male Ends	
BM-150	\$.95	$\frac{3}{8}$ -In. Square	$\frac{1}{4}$ -In. Square
HH-150	1.94	$\frac{3}{4}$ -In. Square	$\frac{5}{8}$ -In. Square
HXX-151	2.09	1-In. Square	$\frac{3}{4}$ -In. Square
XX-150	4.11	1-In. Hex.	1-In. Square



Porter Impakdrivers



No. 6M Impakdriver



Screwdriver Bits



Hex Sockets

Twist-and-rap action; used in garages, body shops, industry, for loosening and tightening nuts, bolts, screws.

No. 6M Impakdriver; Weight, 1 1/8 Lb. each \$5.20

Screwdriver Bits		Hex Sockets	
Plain	Phillips	No. 2	No. 4
No. 625SD 637SD	620P 640P	643S 650S	656S
Each... \$1.45 1.45	1.45 1.45	1.35 1.35	1.35
Size...in. 1/4 3/8	No. 2 No. 4	1/16 1/2	3/16

No. 665, Tray.....each \$4.45



No. 67 Set

No. 67 Sets
Includes No. 6M Impakdriver and all above listed screwdriver bits and hex sockets, tray.

Weight, 2 1/4 lb.
No. 67...ea. \$14.75

No. 64 Sets
No. 6M Impakdriver, 4 screwdriver bits, tray.
Weight, 1 1/8 lb.
No. 64...ea. \$11.00

No. 63 Sets. Includes No. 6M Impakdriver and the 3 above listed hex sockets, tray. Weight, 2 lb.
No. 63.....each \$9.25

Stevens Walden Spintite Wrenches



For use in the home, radio shop, electrical shop, industrial plant, on the automobile, etc.

Packed 12 in a carton. approximate ship. weight, 3 pounds.

No.	Each	Hex. Size	Length In.	Machine Overall In.	Nut In.	No.	Each	Hex. Size	Length In.	Machine Overall In.	Screw In.
3406	\$.65	3/16	6	2 1/2	5/16	3412	\$.65	3/8	6	10	3/2
3407	.65	7/32	6	3 1/4	7/16	3414	.99	1/2	7 1/8	12	3/2
3408	.65	1/4	6	4 1/4	1/2	3416	.99	5/8	7 1/8	14	3/2
3409	.65	9/32	6	5 1/4	3/4	3418	1.62	11/16	7 1/8	.....	.....
3410	.65	5/16	6	6 3/4	7/8	3420	1.62	3/4	7 1/8	.....	.....
3411	.65	11/32	6	8 3/4	.....	.....	.....	.....	.....	.....	.....

No. T-73 Stevens Walden Spintite Bench Sets

Includes one each of Nos. 3406, 3408, 3410, 3411, 3412, 3414, and 3416. Shipping weight, 3 3/8 pounds.

No. T-73, Complete Set with Stand.....each \$6.10
Stand Only.....each 1.57

Crestology Double End Wrenches



Easily handled even in cramped, awkward places.
Made of special steel of extra strength and toughness; in a third thinner than the usual pattern, yet has twice the strength.

Chromium plated.
Packed 1 in a box.

No.	Each	BC146	BC168	BC1810	BC11012
Each.....	\$2.95	3.30	4.00	4.50	
Size.....inches	4-6	6-8	8-10	10-12	
Capacity.....inches	1/2-3/4	3/4-1 1/16	1 1/16-1 1/8	1 1/8-1 1/2	
Thickness of Head:					
At Thickest Point in.	5/16-13/32	13/32-15/32	15/32-9/16	9/16-3/4	
At Tip of Jaws.....in.	1/8-7/32	7/32-1/4	1/4-3/8	3/8-15/32	
Weight.....ounces	6	9	16	29	

Crescent Adjustable Wrenches

Single End

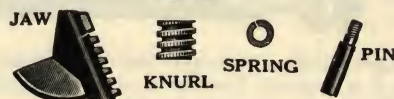


For use on automobiles, gas or gasoline engines, motor boats, machine shops, etc.

Made of a special analysis carbon tool steel, hardened and toughened by special heat-treating process.

No.	Each	Length Inches	Capacity Inches	Weight Pounds
A14	\$1.45	4	1/2	1/8
A16	1.45	6	3/4	5/16
A18	1.75	8	1 1/16	5/8
A110	2.10	10	1 1/8	1 1/8
A112	3.25	12	1 5/16	2
A115	5.00	15	1 11/16	4 5/16
A118	7.30	18	2 1/16	7

Parts



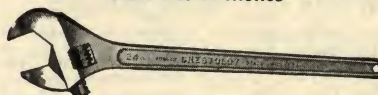
Lgth. In.	No. 2 JAW		No. 3 KNURL		No. 4 PIN		No. 5 SPRING	
	No.	Each	No.	Each	No.	Each	No.	Each
4	A14J	\$.40	A14K	\$.15	A14P	\$.06	A14S	\$.06
6	A16J	.40	A16K	.15	A16P	.06	A16S	.06
8	A18J	.45	A18K	.20	A18P	.06	A18S	.06
10	A110J	.60	A110K	.25	A110P	.06	A110S	.06
12	A112J	.90	A112K	.35	A112P	.13	A112S	.06
15	A115J	1.20	A115K	.45	A115P	.13	A115S	.06
18	A118J	1.65	A118K	.50	A118P	.13	A118S	.06

Crestology Single End Wrenches



30% THINNER
200% STRONGER
TOUGHER THAN EVER

Single End
Sizes 4 to 12 Inches



Single End, Tapered Handle
Sizes 15 to 24 Inches

Made of special alloy steel; chromium plated. Special method of finishing handle prevents it from becoming slippery when used with wet or oily hands. Instantly adjustable to proper size; holds its adjustment until changed.

Packed 1 in a box.

No.	Each	Size Inches	Cap. Inches	Thickest Point	Tip of Jaw	Ship. Wt. Oz.
AC14	\$1.80	4	1/2	5/16	1/8	2
AC16	1.80	6	3/4	13/32	7/32	5
AC18	2.10	8	15/16	15/32	1/4	8
AC110	2.70	10	1 1/8	9/16	3/8	13
AC112	4.00	12	1 5/16	3/4	15/32	24
*AC115	5.90	15	1 11/16	15/16	15/32	54
*AC118	9.80	18	2 1/16	1 1/8	11/16	84
*AC124	16.10	24	2 7/16	1 13/32	7/8	144

*Has tapered handle.

Parts

Size In.	Jaw		Knurl		Pin		Spring	
	No.	Each	No.	Each	No.	Each	No.	Each
4	AC14J	\$.45	AC14K	\$.20	AC14P	\$.06	AC14S	\$.06
6	AC16J	.45	AC16K	.20	AC16P	.06	AC16S	.06
8	AC18J	.55	AC18K	.20	AC18P	.06	AC18S	.06
10	AC110J	.70	AC110K	.25	AC110P	.06	AC110S	.06
12	AC112J	1.05	AC112K	.35	AC112P	.13	AC112S	.06
15	AC115J	1.55	AC115K	.50	AC115P	.13	AC115S	.06
18	AC118J	1.85	AC118K	.60	AC118P	.15	AC118S	.06
24	AC124J	2.80	AC124K	.80	AC124P	.20	AC124S	.06

Vise-Grip Wrenches



A tool which serves as an adjustable end wrench, locking wrench, pipe wrench, vise, clamp, plier, and toggle press. Has a double lever action that locks jaws to the work with a ton of pressure. Locks with a grip that holds until lever is snapped open.

Will hold anything whether round, square, etc. Adjustable to plier action. Works in close quarters at any angle.

Made of fine tool steel; nickel plated finish.

Length.....inches	7	10
Each.....	\$1.85	2.15
Adjustable to.....inches	1 1/8	1 1/4
Weight.....ounces	12	19

Trimo Steel Handle Monkey Wrenches



Leverage increases in proportion to increased size of nut to which it is applied. Nut guard prevents accidental turning of adjusting screw. Semi-bright finish.

Length.....inches	10	12	15	18	21
Per Dozen.....	\$24.00	\$31.00	\$41.00	\$52.00	\$63.00
Jaws.....each	1.20	1.40	2.05	2.20	2.70
Handles with					
Housing.....each	1.10	1.30	2.05	2.60	3.10
Nuts.....each	.24	.31	.36	.41	.53
Nut Guard.....each	.18	.27	.30	.33	.38
Actual Cap.....in.	1 15/16	2 1/2	3 1/8	4 1/4	4 11/16
Weight.....pounds	1 1/8	3 3/16	5 1/16	7	9 1/8

Hargrave Brace Socket Wrenches



Made of forged steel, heat treated. Each size is accurately drifted to U.S. standard nut sizes. A shoulder prevents nut working far up into wrench.

With Square Openings

No.	Per Doz.	*Open- ing In.	MACH. BOLT, In.	Lag Screw Head In.	Stove Bolt Nut In.	Cap- Screw Head & Nut, In.	Machine Screw Nut In.	No. in Box
151	\$7.88	5/16	1/8	3/16	1/8	..	#6	6
152	7.88	3/8	3/16	1/4	1/4 and 5/32	..	#8&10	6
153	9.00	1/2	1/2	1/2	1/2	..	#12	6
154	10.12	1 1/2	1 1/4	5/16	1/4	..	1/4	6
155	11.26	1 9/32	5/16	3/8	5/16	..	5/16	6
156	13.50	5/8	..	..	3/8	..	3/8	6
1560	14.62	1 1/16	3/8	7/16	7/16	..	..	6
157	15.48	25/32	7/16	1 1/2	1 1/2	..	..	6
158	16.88	7/8	1 1/2	9/16	9/16	..	..	6
159	18.00	1	9/16	5/8	5/8	..	..	6

With Hexagon Openings

165	\$7.88	5/16	1/8	3/16	..	..	#6	6
166	7.88	3/8	3/16	1/4	..	3/16	#8&10	6
167	9.00	1/2	1/2	1/2	..	1/4	#12	6
168	10.12	1 1/2	1 1/4	5/16	..	5/16	1/4	6
169	11.26	1 9/32	5/16	3/8	..	5/16	5/16	6
170	13.50	5/8	..	..	..	7/16	3/8	6
171	14.62	1 1/16	3/8	7/16	..	..	..	6
172	15.48	25/32	7/16	1 1/2	..	1 1/2	..	6
173	16.88	7/8	1 1/2	9/16	..	9/16 and 5/8	..	6
174	18.00	1	9/16	5/8	..	..	..	6

*Size opening is measurement from flat to flat.

Petersen Vise-Grip Toggle Wrenches

Thin Nose

Can be used as adjustable end wrench, pipe wrench, plier, clamp, portable toggle press, locking wrench, vise, and as a wire and bolt cutter.



No. 10W, with Wire Cutter



No. 7C, without Wire Cutter

screw heads, rod ends, etc.

Involute jaw curve exerts pressure on 4 points of any size nut. Increases tooth contact on round work, work cannot slip out of jaws. Holds all shapes with non-slip grip.

Wire cutter with ton pressure cuts wire and small bolts. Will cut 1/4-inch bolts by taking progressive grips.

Knurled jaw tips holds work at the very tip with powerful non-slip grip. Hardened and tempered.

No.	Each	With Wire Cutter		Without Wire Cutter	
		7W	10W	7C	10C
Length.....inches		\$2.25	2.60	1.95	2.25
Jaw Thickness.....inches		7	10	7	10
Capacity.....inches		1 1/8	1 7/8	1 1/8	1 7/8
Weight.....ounces		10	19	10	19

Regular Iron Wire Riddles

Used for grain or sand.

Has a 17-inch diameter, with 3 cross bars.

Made in Nos. 2, 3, 4, 5, 6, 8, 12, 14, 16 and 18.

No. 2 is used for gravel and ashes; No. 3 for beans, also coarse sand; No. 4 for corn and sand; Nos. 5 and 6 are used for sand; No. 8 for wheat and fine sand; Nos. 12 and 14 for oats; and Nos. 16 and 18 are used by bakers as flour riddles.

Packed one dozen of a mesh to a crate. Shipping weight, per dozen, 25 pounds.

Price, Nos. 2 to 16.....per dozen \$14.00

No. 102 Christen Hand Bellows



Made of lightweight, thoroughly dry lumber and covered with a good grade of leather.

Width...inches	6	7	8	9	10	12
No. 102.per doz.	\$27.00	31.00	35.00	40.00	45.00	60.00
Wt. per Doz.lb.	15	18	20	25	30	40

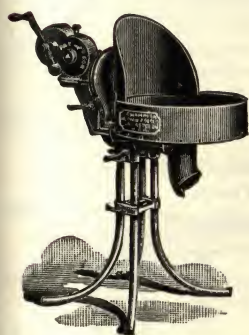
Badger Anvils



The face of the anvil is of solid tool steel, thoroughly welded to cast iron body of the anvil. Ground, tempered and polished to a high finish. The horn is covered with, and its point is made entirely of tough untempered steel.

Size No.	Each	Lgth. Over-all In.	Lgth. Face In.	Width Face In.	Ht. Over-all In.	Lgth. Horn In.	Size of Hardie Hole In.	Size of Pritchel Hole In.	Wt. Lb.
00	\$11.60	7	4	1 1/2	3 3/4	3	1 1/2	1 1/4	5
1	17.50	9 1/2	5 1/4	2 1/4	5	4 1/4	1 1/2	3 3/8	15
3	19.50	12 1/4	7 1/4	2 3/4	6 1/4	5	1 1/2	3 3/8	30
5	23.00	14 3/4	8 5/8	3	7 1/2	6 1/8	5/8	2 1/16	50
7	29.00	18	11	3 3/4	8 1/4	7	3/4	2 1/16	70
10	36.25	20 1/4	12 1/2	3 1/2	9 1/2	7 3/4	1	2 1/16	100
13	43.50	21 1/8	13 1/2	3 3/4	10 7/8	7 3/8	1	2 1/16	130
15	49.50	22 3/8	14 1/2	4	11 1/4	8 1/8	1	2 1/16	150
17 1/2	58.00	24 3/4	15 1/8	4 1/2	11 1/2	9 5/8	1	2 1/16	175
20	65.00	25 3/4	16	4 1/2	12 1/4	9 3/4	1 1/8	2 1/16	200
25	81.20	27 1/4	17 1/2	4 1/2	13	9 3/4	1 1/8	2 1/16	250

Champion Steel Rivet Forges



Used by bridge builders, railroad, boiler and structural iron workers. Made with bronze and gears and adjustable ball bearings throughout.

Hearth of 10-gage steel, tuyere plate heavy steel.

Will produce blasts to weld 3 1/2 to 4-inch iron in ten minutes. Crank turns either way to make blast. Each turn of crank produces 46 revolutions of fan wing.

No.....	401	401 1/2	401 3/4
Each.....	\$91.00	100.00	104.00
Hearth....in.	18	22	24
Fan.....in.	9	9	12
Ht.....in.	30	30	30
Weight...lb.	135	145	150

No. 11 Stanley-Atha Straight Lip Steel Tongs



This tong has a V notch in each jaw so that it will firmly hold square or round work.

Black japan finish.

No.....	11A	11C	11D	11E	11F	11G	11H	11J
Each.....	\$3.54	3.64	3.64	3.70	3.70	3.82	3.82	4.54
Size Square...in.	1/4	3/8	1/2	5/8	3/4	7/8	1	1 1/2
Length...inches	18	20	20	22	22	24	24	26
Weight per Doz.....pounds	32	34	34	37	37	39	39	42

No. 13 Stanley-Atha Double-Pick-Up Steel Blacksmiths' Tongs



For picking up hot work, flat or round. Black japan finish. Length, 24 inches. Weight per dozen, 38 pounds.

No. 13.....each \$3.94

No. 12 Stanley-Atha Curved Lip Fluted Jaw Tongs



For holding bolts or other round work. The opening between the jaws and hinge allows ample space for the head of a bolt.

Made of carbon steel. Black japan finish.

No.....	12A	12C	12D	12E	12F	12G	12H	12J
Each.....	\$3.94	4.14	4.14	4.20	4.20	4.36	4.36	4.54
Length...inches	18	20	20	22	22	24	24	26
Holds Rounds.....inches	1/4	3/8	1/2	5/8	3/4	7/8	1	1 1/2
Weight per Dozen...pounds	32	34	34	37	37	39	39	42

No. 16 Stanley-Atha Gad Tongs



For general forging purposes. Made of tool steel. Black japan finish.

Length, 24 inches. Weight per dozen, 38 pounds.

No. 16.....each \$3.82

Stanley-Atha Top and Bottom Fullers

Fullers are used for necking and grooving forgings, and also for drawing down a forging to a smaller size.

Made of forged carbon tool steel.

All bottom anvil tools regularly furnished with 1 5/16-inch shanks for 1-inch anvil hole.

Finished in black.

Size Inches	Each	WEIGHT, POUNDS	
		No. 1210 Top	No. 1220 Bottom
1/4	\$2.76	2 1/2	2 1/4
3/8	2.76	2 1/2	2 1/4
1/2	2.76	2 1/2	2 1/4
3/4	2.84	2 1/2	2 1/4
1	3.34	3	2 3/4
1 1/4	4.02	3 1/2	4
1 1/2	4.02	3 3/4	4
1 3/4	4.84	3 3/4	4
2	4.84	3 3/4	4 1/2

Stanley-Atha Top and Bottom Swages

Used for shaping, sizing and smoothing round forgings.

Made of forged carbon tool steel.

Furnished with 1 5/16-inch shank for 1-inch anvil hole. Size given is diameter of round bar to which swage will finish. Black finish.

Size Inches	Each	WEIGHT POUNDS	
		No. 1190 Top	No. 1200 Bottom
1/4, 3/8, 1/2	\$2.66	2 1/2	2 1/4
5/8, 3/4	2.78	3 1/4	2 1/2
7/8	3.28	3 1/4	2 1/2
1	3.28	3 1/4	3
1 1/4	3.52	4	3
1 1/2	4.02	4	3 1/2
1 3/4	4.24	4	4
2	4.84	4	4 1/2
2 1/2	6.12	5 1/2	5 1/2
3	7.04	5 1/2	5 1/2



No. 1190, Top



No. 1200, Bottom

No. 1230 Stanley-Atha Flatteners

For smoothing and finishing flat forgings.

Black finish with face polished.

Size.....inches	2	2 1/2	3	4
No. 1230.....each	\$3.20	4.20	5.30	10.62
Weight.....pounds	2	3 3/4	5 1/4	8

No. 1260 Stanley-Atha Blacksmiths' Square Punches



Made of forged tool steel.

Size Punch.....in.	1/4	3/8	1/2	5/8	3/4	7/8	1
No. 1260.....each	\$2.16	2.16	2.24	2.60	2.74	3.04	3.54
Stock at Eye.....in.	1 1/4	1 1/4	1 1/4	1 1/4	1 3/8	1 1/2	1 1/2
Length.....in.	7	7	7	7	7	7 1/2	7 1/2
Weight.....lb.	1 3/4	1 3/4	2	2 1/4	2 7/8	3 1/2	3 5/8

No. 1270 Stanley-Atha Blacksmiths' Round Punches



Forged carbon tool steel. Black finish, faces or bits polished.

Size.....inches	1/4	3/8	1/2	5/8	3/4	7/8	1
No. 1270.....inches	\$2.16	2.16	2.24	2.60	2.74	3.04	3.54
Stock at Eye.....inches	1 1/4	1 1/4	1 3/8	1 3/8	1 1/2	1 5/8	1 3/4
Length.....inches	7 1/4	7 1/2	7 3/4	8	8 1/4	8 1/2	8 3/4
Weight.....pounds	1 3/8	1 1/2	1 7/8	2 1/8	2 3/4	3 1/4	4 1/2

No. 1290 Stanley-Atha Blacksmiths' Cold Chisels



Silicon manganese alloy steel. Black finish with polished bit.

Weight.....pounds	2	3	5
No. 1290.....each	\$2.52	3.26	5.04
Square at Eye.....inches	1 1/4	1 1/2	1 3/4
Cutting Edge.....inches	1 1/4	1 1/2	1 3/4
Length.....inches	6 1/2	7	8 1/8

No. 1300 Stanley-Atha Blacksmiths' Hot Chisels



Made of forged carbon tool steel. Black finish, polished bit.

Weight.....pounds	2	3	5
No. 1300.....each	\$2.60	3.30	5.08
Square at Eye.....inches	1 1/4	1 1/2	1 3/4
Cutting Edge.....inches	1 5/8	2	2 1/4
Length.....inches	7 3/8	8 1/4	9 3/4

No. 1310 Stanley-Atha Regular Hardies



Hardie sets in the anvil and is used for cutting off forgings. Made of forged carbon tool steel. Black finish with polished bit.

Size Sq. Shank in.	5/8	3/4	7/8	1	1 1/8	1 1/4
No. 1310.....each	\$1.56	1.58	1.72	2.04	2.60	2.76
Width Bit.....in.	1 5/8	1 7/8	2	2 1/4	2 1/4	2 1/4
Weight.....lb.	1	1 1/4	1 3/4	2	2 1/2	2 3/4

No. 1321A Stanley-Atha Backing Out Punches



Forged from carbon tool steel.

Size.....inches	3/8	1/2	5/8	3/4	7/8
No. 1321A.....each	\$3.02	3.02	3.30	3.54	3.82
Length.....inches	7	7 3/4	8	8 1/4	8 1/2
Weight.....pounds	1 1/2	1 7/8	2 1/8	2 1/2	3

No. 1060D Stanley-Atha Button Head Rivet Sets



Black japan finish.

For Rivets In.	Each	Size Cup Inches	Length Inches	Weight Pounds
1/2	\$4.86	7/8	6 1/4	3 1/2
5/8	5.74	1 1/8	7	5 1/2
3/4	5.74	1 1/4	7	5 1/2
7/8	7.06	1 1/2	7	7

No. 335 Warwood Taper Type Drift Pins



Made of high carbon steel. Black japan finish.

Diam. of Hole.....in.	1/2	5/8	3/4	7/8	1
No. 335.....each	\$.56	.56	.56	.62	.72
Diam. at Swell.....in.	9/16	1 1/16	1 1/16	1 1/16	1 1/16
Length.....in.	6 1/2	7	7 1/2	8	8 1/2
Approx. Wt. per Doz.....lb.	10	10	10	10	10

No. 670 Stanley-Atha Masons' Hammers



Forged from a high grade of steel carefully hardened and tempered.

Eye is straight and true, allowing the handle to set square in the tool.

Red finish; face and pein polished.

Weight.....pounds	3	4
No. 670.....each	\$3.00	3.26
Length.....inches	5 1/2	6
Face.....inches	2 1/8 x 1	2 1/4 x 1 1/8
Bit.....inches	2 1/8	2 1/4

No. 197 Bush Hammers



Regular cut, one end, 25 teeth; other end, 36 teeth. Made to order with any number of teeth.

Weight.....pounds	4	6	8
Each.....	\$13.08	19.80	26.10

No. 130 Stone Cutters' Chisels Plain Head



Made from 5/8-inch high carbon octagon tool steel. Finished with a black rust resistant coating.

Weight per dozen, 9 pounds.			
Size Bit.....inches	1	1 1/2	2
Each.....	\$1.10	1.20	1.26

No. 131 Stone Cutters' Chisels Plain Head with Teeth



Made from 5/8-inch high carbon octagon tool steel. Finished with a black rust resistant coating.

Weight per dozen, 9 pounds.			
Size Bit.....inches	1	1 1/2	2
Each.....	\$1.26	1.30	1.44

No. 123 Warwood Ship or Top Mauls



Made of fine grain, high carbon steel hardened and drawn. Black enamel finish; polished face.

Length, 8 3/4 inches.

Weight, 5 pounds.

No. 123.....each	\$3.80
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No. 126 Warwood Striking Hammers

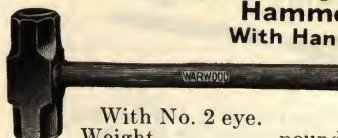


Short or Oregon Pattern

Made of forged steel with No. 2 eye.

Weight.....lb.	4	6	8	10	12	16
No. 126.....each	\$2.38	2.82	3.18	4.08	4.68	6.22
Lgth. O/A.....in.	5	5 5/8	6 1/4	6 3/4	7 1/4	7 3/4
Eye Size.....in.	3/4 x 1	1 x 1 1/4	1 x 1 1/4	1 x 1 3/8	1 x 1 3/8	1 x 1 3/8

No. H139 Warwood Engineers' Double Face Hammers With Handles



With No. 2 eye.

Weight.....pounds	2	2 1/2	3	4
No. H139.....each	\$2.36	2.36	2.74	3.08
Length Overall.....inches	4 1/2	4 3/4	5	5 1/4

No. 134 Warwood Blacksmiths' Sledges

Double Face



A general purpose double face sledge of high carbon steel, hardened and drawn to resist hard work. No. 2 eye.

Weight.....lb.	4	6	8	10	12	16	20
No. 134....each	\$2.38	2.92	3.26	4.06	4.68	6.22	7.58
Lgth. Overall							
.....inches	5¼	6	6½	7	7½	8¼	8¾

No. H-134 Warwood Double Face Sledges With Handle



Carbonized steel, double tempered faces finished with baked blue enamel. With No. 2 eye.

Size.....lb.	4	6	8	10	12	16	20
No. H-134...ea.	\$3.08	4.24	4.58	5.38	6.00	7.54	8.90
Length							
Overall...in.	5¼	6	6½	7	7½	8¼	8¾
Size Eye...in.	¾x1	1x1¼	1x1¼	1x1¾	1x1¾	1x1¾	1¼x1½

Vulcan Wedges and Shims



No.	Suitable for Hole Drilled Inches	Wedge Size at Top Inches	Wedge Length Inches	Weight Pounds per Set
1303	5/8	9/16x1½	3½	1½
1305	¾	5/8x1½	4	1½
1306	13/8	¾x1½	6	1¾
1307	1½	7/8x1½	8	2¼
1308	1½	*1	10	3¼
1309	1½	*1	12	4¾
1310	1¾	*1¼	12	7½
1311	2	*1½	12	10
1312	1¾	*1¼	15	10½
1313	2	*1½	15	13½
1314	1¾	*1¼	18	12
1315	2	*1½	18	18

*Square.

Vulcan Frost Wedges Wedge or Square Point



Wedge Point



Square Point

Made from steel in lengths from 10 to 20 inches. Furnished in wedge or square point as desired.

Price.....per pound

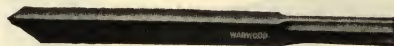
No. 82 Warwood Truckee Wedges



Made of steel, black japan finish.

Size.....pounds	4	5	6
No. 82.....each	\$1.42	1.54	1.76
Approx. Length.....inches	9	9½	10½

Warwood Crow Bars



No. 160 Pinch Point



No. 161 Wedge Point

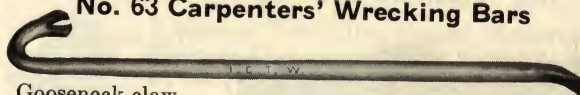
Made of high carbon steel.

Crowbars are shipped loose.

Weight.....lb.	6	10	12	14	18	22	26
Each.....	\$2.26	3.26	3.70	4.12	4.90	5.94	7.20
Square.....in.	7/8	1	1½	1½	1¼	1¾	1½
Length.....ft.	3	4	4¼	4½	5	5½	5½

Larger sizes made on special order.

No. 63 Carpenters' Wrecking Bars



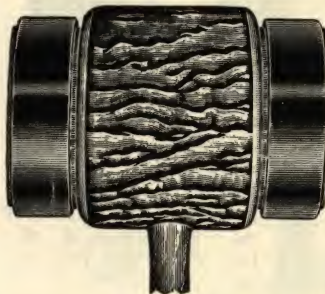
Gooseneck claw.

Size.....inches	5/8x18	¾x24	¾x30	¾x36	7/8x36
Regular Quality...each	\$1.61	\$1.91	\$1.06	\$1.22	\$1.70
Extra Quality...each	.82	1.28	1.50	1.68	2.64
Wt. per Doz...pounds	18	33	54	66	90

Hickory Plank Mauls

Made of the best second growth hickory, banded with high grade iron bands, 2x¼ inches.

Any of the sizes listed below can be furnished without handles, with pick eye, for use with pick handles.



With 36-Inch Handle

Size In.	Each	Approx. Wt., Lb.
5x10	12 to 14
6x10	16 to 18
6x11	17 to 19
6x12	19 to 21
7x11	20 to 22

With 38-Inch Handle

Size In.	Each	Approx. Wt., Lb.
8x11	26 to 28
8x12	30 to 32
9x12	31 to 33

No. 20 Warwood Grub Hoes



Solid steel, hammer forged, tempered, and drawn to standard hardness. No. 8 adze eye. Ground, with polished cutting edge. Painted blue. Packed 2 dozen in a case.

Weight.....pounds	3	3½
No. 20.....per dozen	\$27.36	30.24
Blade Width.....inches	3	3¼
Length.....inches	9½	10¾

A Complete SOURCE OF SUPPLY

FOR YOUR

INDUSTRIAL AND CONSTRUCTION NEEDS

No. 30 Warwood Adze Eye Railroad or Clay Picks



Made of high carbon, fine grain steel, heat treated. No. 6 eye.

Black enamel finish. Packed 6 to fiber carton.

Weight.....pounds	5	6	7	8	9
No. 30.....per dozen	\$28.44	30.48	32.76	36.36	39.00
Length Overall.....in.	21	23	25	26	27

No. 2 Warwood Steel Pick Mattocks



Black finish and polished bevels.

No. 6 eye. Packed 1 dozen to fiber carton.

Weight.....pounds	5	6
No. 2.....per dozen	\$32.76	35.52
Blade Width.....inches	3½	4
Length Overall.....inches	19	20

No. 1 Warwood Cutter Mattocks



High carbon, fine grain steel, heat-treated. Polished bevels.

Black finish.

Packed 1 doz. to fiber carton.

Weight.....pounds	3	5	6
No. 1.....per dozen	\$30.36	32.28	34.80
Blade Width.....inches	3	3	4
Length Overall.....inches	13	15¾	16½
Eye No.....	7	6	6

No. 7 Double Eye Asphalt Mattocks



Has double or reversible eye. Handle enters eye in either direction. Finished in black japan.

Width blade, 3 inches. Length, 20 inches.

No. 7, Weight 10 Pounds.....per dozen \$70.80

Grady Steel Wedges

Cuts Are Actual Size



No. 2



No. 3



No. 4



No. 5

Scientifically designed for all sizes of hammers, hatchets, single and double bitted axes, etc.

No.....	2	3	4	5	10	15	18
Per Dozen.....	\$.42	.42	.46	.56	.84	1.15	1.40
No. in Box.....	36	36	36	36	24	12	6
Weight per Gross..lb.	*13	*18	1½	2½	4¼	7½	†

*Ounces. †Weight each, 1½ ounces.

Kiln-Dried Hickory Tool Handles Hickory Railroad Handles

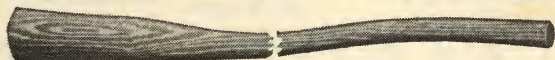


Blue Seal. Second growth all white straight grain hickory.

White Seal. First growth all white straight grain hickory. Packed 1 dozen in a carton; weight 30 pounds.

Size.....inches	36
Blue Seal.....per dozen	\$20.00
White Seal.....per dozen	14.40

White Seal Hickory Grub Hoe Handles

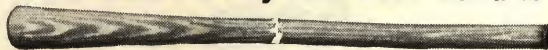


Good quality all white straight grain.

Packed 1 dozen in carton; weight 20 pounds.

36-Inch.....per dozen \$15.00

Kiln-Dried Hickory Tool Handles White Seal Hickory Post Maul Handles



All white good grain hickory. Medium weight. Packed 1 dozen in carton; weight 20 pounds.

36-Inch.....per dozen \$9.80

Blue Seal Hickory Carpenters' Adze Handles



Beautiful all white select second growth hickory. Heavy weight.

Packed 1 dozen to a carton; weight 20 pounds.

34-Inch.....per dozen \$20.00

Blue Seal Hickory Poll Pick Handles



Beautiful all white select second growth hickory. Heavy weight. Single bit.

Packed 1 dozen in carton; weight 20 pounds.

34-Inch.....per dozen \$17.40

Blue Seal Adze Eye Hickory Hammer Handles



Beautiful all white select second growth hickory. Heavy weight.

Packed 1 dozen in a carton.

Size.....inches	12	13	14	15
Per Dozen.....	\$6.60	6.60	6.60	7.20
Weight per Dozen.....pounds	5	6	6	6

Blue Seal Machinists' and Blacksmiths' Hickory Hammer Handles



Beautiful all white select second growth hickory. Heavy weight.

Packed 1 dozen in a carton.

Size.....in.	10	11	12	13	14	15	16	18	20
Per Doz.....	\$6.60	6.60	6.60	6.60	6.60	7.20	7.20	7.80	9.00
Wt./Doz..lb.	4	4	5	6	6	6	8	10	11

Blue Seal Shingling and Broad or Bench Hickory Hatchet Handles



Beautiful all white select second growth hickory. Heavy weight.

Packed 1 dozen in a carton.

Size.....inches	14	15	16	18
Per Dozen.....	\$7.20	7.80	7.80	9.00
Weight per Dozen.....pounds	6	6	8	10

Single and Double Bit Hickory Axe Handles



Blue Seal. Beautiful all white select second growth hickory. Heavy weight.

White Seal. All white good grain hickory. Medium weight. Packed 1 dozen in a carton

Size.....inches	30	36
Blue Seal.....per dozen	\$17.40	\$17.40
White Seal.....per dozen	11.60	11.60
Weight per Dozen.....pounds	17	20

Hickory Sledge Handles



Blue Seal. Beautiful all white select second growth hickory. Heavy weight.

White Seal. All white good grain hickory. Medium weight. Packed 1 dozen in a carton.

Size.....inches	26	28	30	32	34	36
Blue Seal..per doz.	\$14.80	\$14.80	\$15.40	\$15.40	\$16.00	\$16.00
White Seal..per doz.	8.20	8.20	8.80	8.80	9.40	9.40
Weight per doz..lb.	14	14	16	16	20	20

Rubber Mallets

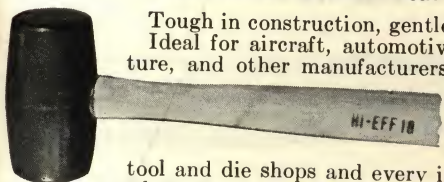


Used by furniture and cabinet makers, foundries, bottling works, etc.

Compounded from high grade stock that will not chip or wear. Has best quality hickory handle inserted.

No.	1	2	3
Each.....			
Length.....inches	3 $\frac{1}{16}$	4	5
Face.....inches	2 $\frac{1}{8}$	2 $\frac{1}{4}$	2 $\frac{9}{16}$
Diameter in Center.....inches	2 $\frac{9}{16}$	2 $\frac{13}{16}$	3 $\frac{1}{4}$
Approx. Wt. Including Handle.lb.	1	1 $\frac{1}{4}$	2 $\frac{1}{4}$

Wright Mallets With Hi-Eff No-Mar Head



Tough in construction, gentle in use. Ideal for aircraft, automotive, radio, furniture, and other manufacturers of fine equipment.

Useful to garages, tire repairmen, tool and die shops and every industrial plant where finely finished surfaces must be protected.

Available in 3 weights, without weighted cores. Packed 6 to the carton.

No.	1	2	3
Each.....	\$1.25	1.67	2.25
Size of Head.....inches	2x3 $\frac{1}{2}$	2x3 $\frac{1}{2}$	2x3 $\frac{1}{2}$
Length of Handle.....inches	12	12	12
Weight.....ounces	12	18	24

Standard Tinnerns' Hickory Mallets



Made of good virgin growth hickory. Handle is of hardwood securely driven in, but not wedged. Thoroughly seasoned but not varnished.

No.	104	104 $\frac{1}{2}$	104 $\frac{3}{4}$
Each.....			
Length of Head.....inches	5	5 $\frac{1}{2}$	5 $\frac{1}{2}$
Diameter of Face.....inches	2 $\frac{1}{4}$	2 $\frac{1}{2}$	2 $\frac{3}{4}$
*Length of Handle Overall.....inches	11 $\frac{3}{4}$	12	12
*Handle Projects out of Head.....inches	9 $\frac{1}{2}$	9 $\frac{1}{2}$	9 $\frac{1}{2}$
*Weight Each.....pounds	11 $\frac{1}{16}$	7 $\frac{1}{8}$	13 $\frac{1}{16}$

*Approximate.

Solid Copper Hammers



A homogeneous casting, mechanically designed, for use in every engine room, printing establishment, and manufacturing plant operating machinery.

Will not mar machined surfaces and will wear much longer than hammers made of lead and alloyed metals.

When hammers are ordered handled, the handles are fitted to hammers properly wedged and ready for use without extra charge except for handle.

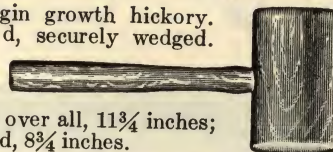
Furnished in the following weights: $\frac{1}{4}$, $\frac{1}{2}$, 1, 1 $\frac{1}{2}$, 2, 3, 4, 5, 6, 8, 10, 12, and 16 pounds.

No. 101 Standard Round Hickory Mallets

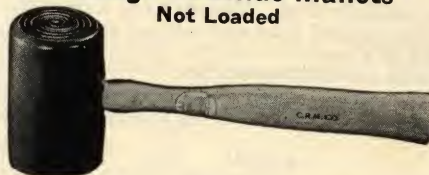
Made of the best virgin growth hickory. Handle is of hardwood, securely wedged. Varnished head.

Length of head, 5 inches; diameter of face, 3 inches; length of handle over all, 11 $\frac{3}{4}$ inches; handle projects out of head, 8 $\frac{3}{4}$ inches.

Price, No. 101, Weight Each, 1 $\frac{5}{16}$ Pounds .per dozen



Chicago Rawhide Mallets Not Loaded



Has solid rawhide head, hardwood handle. Rawhide being a non-conductor of electricity, it is adapted to electrical work. Used where repairs to machinery are made.

No.	0	1	2	3	4	5	6
Each.....	\$1.70	\$2.10	\$2.40	\$2.75	\$3.50	\$6.75	\$7.50
Handles.....ea.	.70	.70	.70	.70	.70	.70	.70
Diameter.....in.	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	1 $\frac{3}{4}$	2	2 $\frac{3}{4}$	2 $\frac{3}{4}$
Length.....in.	2 $\frac{1}{8}$	3	3 $\frac{1}{4}$	3 $\frac{1}{4}$	3 $\frac{1}{2}$	4 $\frac{1}{4}$	4 $\frac{3}{4}$
Weight.....oz.	2	4	6	8	12	24	28

Chicago Rawhide Faced Hammers Rawhide Faces—Inserted in Malleable Iron



For use where it is desired to strike a hard blow without injuring delicate surfaces. Metal part is practically indestructible and rawhide face is renewable.

No.	Each	Hdles. Each	Extra Faces per Pr.	Diam. In.	Wt. Lb.
0	\$2.40	\$.70	\$.95	1	3 $\frac{1}{4}$
1	3.25	.70	1.50	1 $\frac{1}{4}$	13 $\frac{1}{8}$
2	4.00	.70	1.75	1 $\frac{1}{2}$	2
3	4.85	.70	2.20	1 $\frac{3}{4}$	2 $\frac{1}{2}$
4	6.25	.70	2.70	2	4 $\frac{1}{2}$
5	9.55	.70	5.40	2 $\frac{3}{4}$	7

Stanley Soft Face Hammers



Regular Face

Especially useful in aircraft plants, for working and forming of light sheet metals. Will not mar finely finished surfaces or delicate machine parts.

Renewable tips are made of cellulose composition, a very tough and resilient material. Evertite processed hickory handle with comfortable grip is securely wedged in the steel center body. Head is red, tips are amber colored and handle is lacquered mahogany.

No.	592	593	594	595	5950
Each.....	\$1.10	1.40	1.90	2.20	6.50
Weight of Head.....oz.	1 $\frac{1}{2}$	4	8	16	32
Length of Handle.....in.	7 $\frac{5}{8}$	9	11 $\frac{3}{4}$	11 $\frac{3}{4}$	12 $\frac{1}{2}$
No. in Box.....	6	6	6	6	2

Extra Tips

No.	592A	593A	594A	595A	5950A
Each.....	\$.25	.30	.40	.45	.80
Diameter.....inches	$\frac{5}{8}$	$\frac{7}{8}$	1 $\frac{1}{4}$	1 $\frac{3}{8}$	1 $\frac{5}{8}$
For Hammer No.....	592	593	594	595	5950

Plumb Autograf Octagon Nail Hammers



Special analysis steel. Mahoganized finish full octagon handle with polished head and take-up wedge. Packed 6 in a box.

Weights do not include handles.

No.	OAN11	OAN11½	OAN12
Each			
Size	11	11½	12
Weight	1¼	1	13/16

Plumb Nail Hammers

Adze Eye—Bell Face—Curved Claws



Hand forged steel head, smooth black finish. Bend of claws gives good hammer leverage for removing nails. Take-up wedge keeps handle tight. Fitted with hickory handle, red finish.

Packed 6 in a box.

No.	80	81	82	83
Each				
Size No.	11	11½	12	13
Handle Length	13½	13	12½	11½
Weight, without Handle	20	16	13	7

Plumb Adze Eye Bell Face Ripping Hammers

Hand Forged—Smooth Black Finish—Red Handle



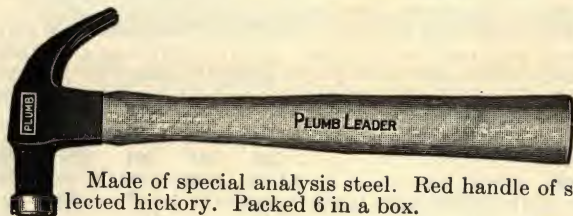
The wide chamfer around the face, guards against chipping when a glancing blow strikes near the edge. Breakage at eye is overcome by armor plate heat treatment. Take-up wedge.

Packed 6 in a box.

No.	85	86
Size	11	11½
Each		
Weight, without Handle	1¼	1

Plumb Leader Nail Hammers

Ground Black Head—Bell Face

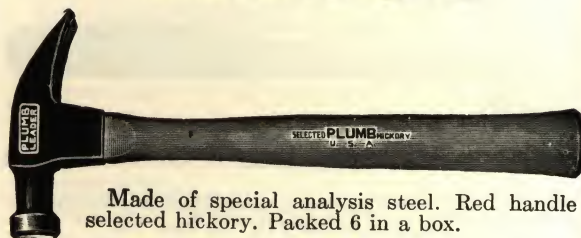


Made of special analysis steel. Red handle of selected hickory. Packed 6 in a box.

No.	L80	L81	L82	L83
Per Dozen				
Size No.	11	11½	12	13
Length Handle	13½	13	12½	11½
Weight of Head	1¼	1	13/16	7/16
Ship. Wt. per Dozen	18½	15	12	8

Plumb Leader Ripping Hammers

Ground Black Head—Bell Face



Made of special analysis steel. Red handle of selected hickory. Packed 6 in a box.

No.	L85	L86
Per Dozen		
Size No.	11	11½
Handle Length	13½	13
Weight of Head	1¼	1
Shipping Weight per Dozen	18½	15

Plumb Checkered Face Nail Hammers

Hand Forged—Black Finish—Red Handle



A safety claw hammer for the industrial worker. Milled checkered face that prevents slipping. Tempered face crowned and chamfered to overcome dangerous chipping of head. Handle made of selected hickory. Take-up wedge keeps handle tight by a turn of screw. Weight balanced.

No. CH80, 1¼-Lb. Head	each	.....
No. CH81, 1 -Lb. Head	each	.....

No. SN11½ Servall Nail Hammers

Bell Face Pattern



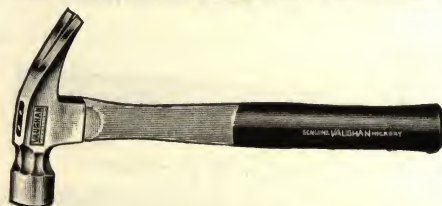
Lacquered handle with black forged head.

Packed 6 in a box.

Weight does not include handle.

No.	SN11½
Each	
Size	11½
Weight	1

No. 999 V & B Vaughan Hammers



For electricians, steamfitters, plumbers, millwrights, cement workers, and heavy carpentry work. Especially adapted for use with drills and concrete forms.

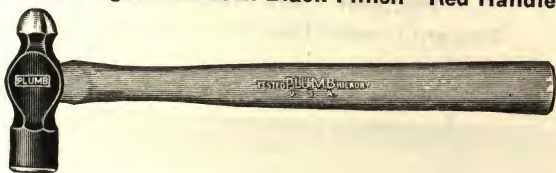
A heavy duty, full polished, octagon neck, straight claw hammer with 1¼-inch diameter round head. Overall length, 13½ inches.

Weight of head, 20 ounces.

Standard package, 4. Shipping weight per dozen, 22 lb.

No. 999	each	\$3.25
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Plumb Machinists' Ball Pein Hammers
Hand Forged—Smooth Black Finish—Red Handle



Handle made of selected hickory.
Plumb patented take-up wedge keeps handle tight.
Packed 6 in box. Weight does not include handle.

No.	Each	Size	Wt. Lb.	No.	Each	Size	Wt. Lb.
367	7/0	1/8	374	....	1	1 1/4
369	5/0	1/4	375	....	2	1 1/2
371	3/0	1/2	377	....	4	2
372	2/0	3/4	379	....	6	2 1/2
373	0	1	381	....	8	3

No. 415 Plumb Cross Pein Machinists' Hammers



Hand forged. Eye is placed off center so that weight is concentrated in striking face which mechanic uses 95 per cent of the time. Black finish.

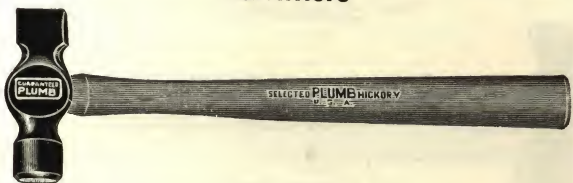
Patented take-up wedge keeps handle tight.

Air dried second growth hickory handle, red finish.

Packed 6 in a box. Weight does not include handle.

Size No.	2
No. 415.....each	....
Weight.....pounds	1 1/2

No. 395 Plumb Straight Pein Machinists' Hammers



Hand forged, black finish. Patented take-up wedge keeps handle tight.

Fitted with red hickory handle.

Packed 6 in a box.

Weight does not include handle.

Size No.	2
No. 395.....each	....
Weight.....pounds	1 1/2

No. 231 Plumb Tinnners' Paneing Hammers



Hand forged. Made with large oblong eye. Black finish. Take-up wedge keeps handle tight.

Fitted with handle made of second growth hickory, mahogany stained, red finish.

Packed 6 in a box.

Weight not including handle, 12 ounces.

No. 221 Plumb Tinnners' Riveting Hammers



Hand forged of special analysis steel. Large oblong eye gives strength to handle at weakest point. Black finish. Take-up wedge keeps handle tight.

Handle made of second growth hickory, red finish.

Packed 6 in a box.

Weight without handle, 3/4 pound.

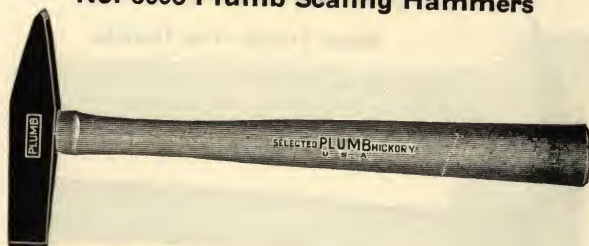
Plumb Machinists' Riveting Hammers
Black Head—Red Handle—Take-Up Wedge



Made of special analysis steel, perfectly balanced for accurate work. Handles of second growth hickory.

No.	Each	Size No.	Handle Length.....inches	Weight.....ounces	Ship. Weight per Doz. pounds
250	0	10	4	4 1/2
251	1	12	7	7 3/4
252	2	12	9	9 1/2
253	3	13	12	12

No. 3095 Plumb Scaling Hammers



Drop-forged from one piece of high grade steel.

Has red handle with black head.

Packed 6 in a box.

No. 3095.....each	....
Size No.	1
Length Handle.....inches	14
Weight, Not Including Handle.....pounds	1

Plumb Engineers' and Blacksmiths' Hand Hammers



Hand forged. Face will not crack or chip and hammer will not break at the eye. Smooth black finish.

Take-up wedge keeps handle tight. Mahoganized handle, red finish.

Packed 6 in a box. Weights do not include handle.

No.	Each	Size No.	Weight.....pounds
281	1	2
282	2	2 1/2
283	3	3

Plumb Engineers' Double Face Hammers



A heavy hammer, correctly balanced. Made of special analysis steel tempered to eliminate mushrooming. Has smooth black head and take-up wedge. Red handle of second growth hickory shaped for hand comfort.

Packed 6 in a box. Weights do not include handles.

No.....	272	273
Each.....		
Size No.....	2	3
Weight.....pounds	2½	3

No. 2580 Plumb Plain Eye Pattern Brick Hammers

Smooth Black Finish
Red Handle and Take-up Wedge



This hammer has an exceptional balance and striking power. The weight does not include the handle.

Weight, 1½ pounds. Packed 6 in a box.

No. 2580, Size 1.....	each
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No. 470 Plumb Prospecting Picks

Black Finish—Red Handle

Made of one-piece drop forged special analysis steel. Furnished with take-up wedge.

Packed 6 to a box.



Size No.....	1	
No. 470.....	each	....
Length of Head, Pickpoint to Driving Face.....	inches	7
Overall Length.....	inches	12½
Weight of Head.....	pounds	1

V & B Magnetic Bill Posters' Hammers



Made of magnet steel. Polished, plain eye. Two-tone hickory handle.

Packed 6 in a box, 6 dozen in a case.

No.....	55	85
Each.....	\$1.85	\$1 95
Length Head.....	inches	3¾ 4½
Weight of Head.....	ounces	5 8
Length Overall.....	inches	10½ 11½
Weight per Dozen.....	pounds	6 10

No. 5 V&B Supersteel Brand Magnetic Pattern Tack Hammers

Straight Claw—Plain Face—Oval Handle



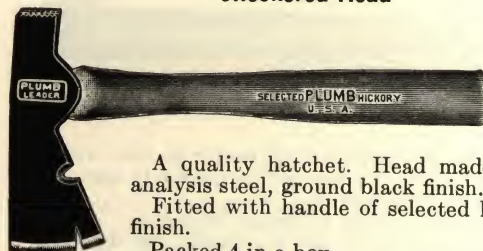
Made of magnetic steel, polished finish. Head has magnetic driving face and claw. Two-tone hickory handle.

Packed 6 in a box.

No.....	5	
Each.....		\$2.15
Head Length.....	inches	5
Overall Length.....	inches	11
Weight per Dozen.....	pounds	7

No. 635 Plumb Leader Barrel Hatchets

Checkered Head



A quality hatchet. Head made of special analysis steel, ground black finish.

Fitted with handle of selected hickory, red finish.

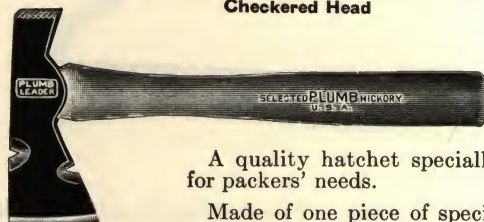
Packed 4 in a box.

Weight does not include handle.

Bit.....	inches	2¾
No. 635.....	each	....
Weight.....	ounces	14

No. 3005 Plumb Leader Produce Hatchets

Checkered Head



A quality hatchet specially designed for packers' needs.

Made of one piece of special analysis steel; ground, black finish. Eye can not buckle or split. Has heavy head for driving a light nail with one blow. Width of bit, 2½ inches.

Has red hickory handle, 11½ inches long.

Packed 4 in a box. Weight head, 12 ounces.

No. 3005.....	each
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No. 2972 Plumb Claw Hatchets

Black Head and Red Handle
with Take-Up Wedge



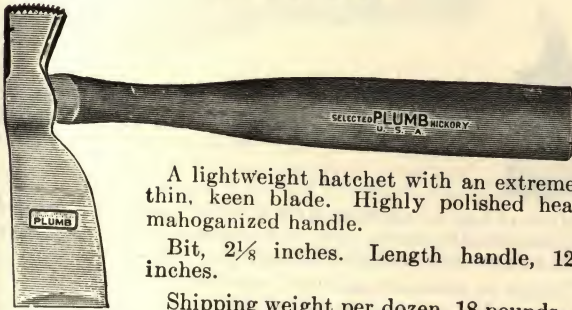
Bit will stay sharp; will not become soft after few grindings. Head will not mash. Hickory handle is shaped to give balance and comfort. Screw wedge keeps head from flying off.

Packed 4 in a box.

Size.....	2	
No. 2972.....	each	....
Bit.....	inches	4
Handle Length.....	inches	14

No. 3025 Plumb Lath Hatchets

California Pattern



A lightweight hatchet with an extremely thin, keen blade. Highly polished head; mahoganized handle.

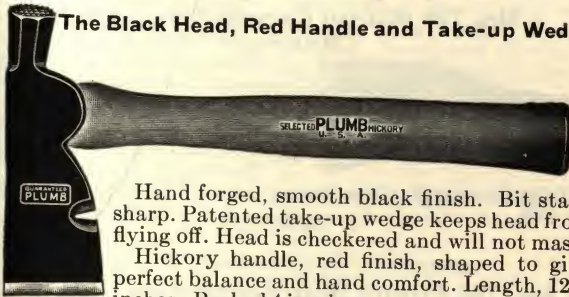
Bit, $2\frac{1}{8}$ inches. Length handle, $12\frac{1}{2}$ inches.

Shipping weight per dozen, 18 pounds.

No. 3025 per dozen

No. 2981 Plumb Lathing Hatchets

The Black Head, Red Handle and Take-up Wedge



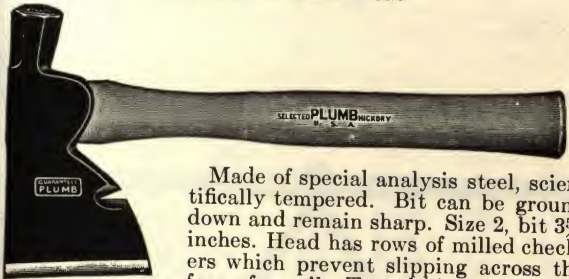
Hand forged, smooth black finish. Bit stays sharp. Patented take-up wedge keeps head from flying off. Head is checkered and will not mash.

Hickory handle, red finish, shaped to give perfect balance and hand comfort. Length, $12\frac{1}{2}$ inches. Packed 4 in a box.

Size No.....	1
No. 2981.....	each
Size Bit.....	inches $2\frac{1}{4}$

No. CH2962 Plumb Half Hatchets

Checkered Black Head



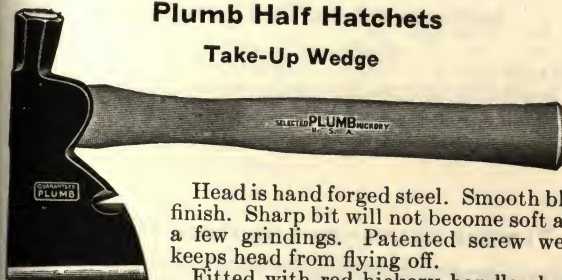
Made of special analysis steel, scientifically tempered. Bit can be ground down and remain sharp. Size 2, bit $3\frac{3}{8}$ inches. Head has rows of milled checkers which prevent slipping across the face of a nail. Tested hickory handle, red, held by patented screw wedge.

Weight of head, 1 pound 5 ounces. Weight per dozen, 22 pounds. Packed 4 in a box.

No. CH2962..... each

Plumb Half Hatchets

Take-Up Wedge



Head is hand forged steel. Smooth black finish. Sharp bit will not become soft after a few grindings. Patented screw wedge keeps head from flying off.

Fitted with red hickory handle shaped to give perfect balance.

No.....	2961	2962
Size.....	1	2
Length Handle.....	inches 13	$13\frac{1}{2}$
Bit.....	inches $3\frac{3}{4}$	$3\frac{5}{8}$
No. in Box.....	4	4

No. 530 Plumb Half Hatchets

Adze Eye—Bell Pole



A lightweight, well balanced hatchet. Thin steel blade for fast cutting and large full face for driving. Special heat treatment toughens blade beneath eye, will not bend or break. Full polish finish. Natural finish handle.

Packed 6 in a paper box.

Size No.....	1
No. 530.....	each
Bit.....	inches $3\frac{1}{8}$
Handle Length.....	inches 13
Ship. Weight Including Handle, per Dozen.....	pounds $17\frac{1}{2}$

Plumb Broad Hatchets

Black Head and Red Handle with Take-Up Wedge



Made of special analysis steel. Full single bevel blade. Take-up wedge. Tested hickory handle.

Packed 4 in a box.

No.....	2992	2994
Size.....	2	4
Bit.....	inches $4\frac{1}{2}$	$5\frac{1}{2}$
Handle Length.....	inches $15\frac{1}{2}$	$15\frac{1}{2}$

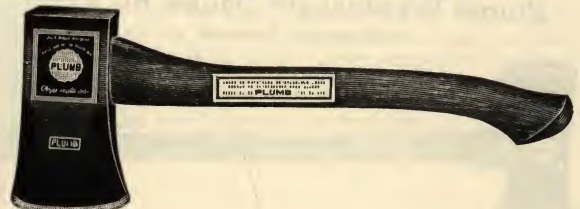
No. 2985 Plumb Flooring Hatchets



Used by carpenters for squaring up light timber where a plane or adze would be too slow or clumsy. Made of special analysis steel. Has a smooth, wide, flat, black head, take-up wedge and a full blade, $3\frac{3}{4}$ inches. Tested red hickory handle, length, $13\frac{1}{2}$ inches.

No. 2985, Size No. 1..... each

No. 665 Plumb House Axes



Made of one-piece special analysis steel, hand forged, subjected to the armor-plate heat treatment, making a fine, keen edge, hard, yet tough. Smooth black finish.

Fitted with selected red hickory handle.

Packed 6 in a box.

Weight, without handle, $2\frac{1}{4}$ pounds.

No. 665..... each

Plumb Single Bit Hunters' Axes
Handled



A handy axe for camp or home use. Hand forged of special analysis steel with sharp cutting edge. Black finish. Red handle of second growth hickory.

Packed 6 in a box. Weights do not include handle.

No.....	672	674
Size No.....	0	2
Weight.....pounds	1¼	1¾

Plumb Belt Axes
Black Head—Red Handle



Made of one piece of special analysis steel, subjected to armor-plate heat treatment. Exacting control of heat treating and tempering processes insures a keen cutting edge. Axe pattern handle of second growth hickory. Length, 14 inches.

Weight, 1¼ pounds.
No. 680, without sheath.
No. 682, with leather sheath.

Plumb Dreadnaught Single Bit Axes
Michigan Pattern



Hand forged from one piece of high grade steel, cutting edge double tempered. Smooth black finish.

Fitted with 36-inch hickory handle, red finish.

Packed 4 in a box.

Weight.....pounds	3	4	4½
Each.....	.....	.....	.....

Plumb Dreadnaught Double Bit Axes
Michigan Pattern



Hand forged from one piece of high grade steel, cutting edge double tempered. Non-rusting finish. Black head. Labeled.

Fitted with 36-inch red mahoganized hickory handle.
Packed 4 in a box.

Weight.....pounds	3	3½	4	4½
Each.....	.....	.....	.....	.....

Plumb Regal Fire Axes
Red Body, Polished Blade and Pick



Made of special analysis steel with bit and pick hardened and electrically tempered to withstand repeated grindings. Well balanced to secure full power to the stroke.

Tested for both strength and resiliency.

Has red handle; length, 36 inches.

Weight of head, 6 pounds.

No. 740 Plumb Carpenters' Adzes
Half Head



Made of one solid piece of special analysis steel. Hand forged, non-rusting finish. Can be reground.

Size cut, 4 inches.
Packed 12 in a case.

Weight per dozen, 39 pounds.

No. 740.....per dozen

No. 780 Plumb Ship Carpenters' Adzes
Spur Head

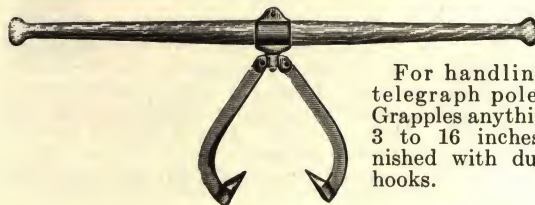


Hand forged from one-piece, special analysis steel from head to bit, highly tempered.

Non-rusting finish.
Can be reground.
Cut size, 4 and 4½ inches.

No. 780.....each

Timber Carriers or Lug Hooks



For handling ties, telegraph poles, etc. Grapples anything from 3 to 16 inches. Furnished with duck bill hooks.

No.	Per Doz.	SIZE HANDLES		Style of Handle	No.	Per Doz.	SIZE HANDLES		Style of Handle
		Diam.	Lgth				Diam.	Lgth	
425	\$74.00	2½	4	Maple	489	\$114.00	3	6	Maple
426	76.00	2½	4½	Maple	762	82.00	2½	4	Hickory
427	78.00	2½	5	Maple	763	85.00	2½	4½	Hickory
488	105.00	3	5	Maple	764	87.00	2½	5	Hickory

Timber Carrier or Lug Hook Handles

Sanded and polished.
Packed 6 in a bundle.

No.	Per Doz.	Maple		No.	Per Doz.	Maple	
		Diam.	Lgth.			Diam.	Lgth.
729	\$29.00	2½	4	770	\$22.00	2½	4
730	30.00	2½	4½	771	25.00	2½	4½
731	37.00	2½	5	772	27.00	2½	5
				741	37.00	3	5
				742	42.00	3	6

No. 9 Badger Never-Slip Railway Car Movers



Double leverage type, having regular pinch-bar action combined with a cam or elongating-toggle thrust, imparting rotary motion to car wheel and provided push enough to move loaded cars of largest carrying capacity. Certified malleable iron castings. Selected Wisconsin hardwood handle, straight grained and turned oversize.

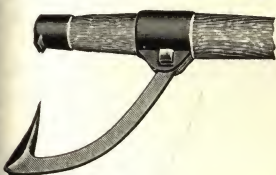
Slip-proof spurs consist of two pieces of special tool steel set at the right angle to engage soft corners of crown of rail.

Length overall, 70 inches.

Weight, 18 pounds.

No. 9.....each \$20.00

No. 442 Malleable Clasp Cant Hooks



With duck bill, round or diamond head hooks. Short toe ring. Furnished with select rock maple handle and duck bill hook.

Handle, 2 1/4 in. x 4 1/2 ft.

Weight, per dozen, 90 lb.

No. 442.....per dozen \$60.00

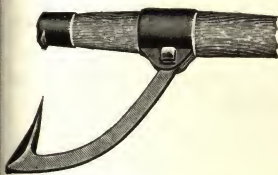
No. 702 Rock Maple and Beech Cant Hook Handles



Made from carefully selected timber, air seasoned; and carefully turned, sanded and polished.

Standard package, 12 to box. Weight, 41 pounds per dozen.

No. 702, Not Bored.....per dozen \$24.00



Malleable Clasp Cant Hooks

Furnished with duck bill, round or diamond head hook. Short toe ring. Selected hickory handle.

When ordering specify type of hook desired.

No.	Per Doz.	HANDLE		No.	Per Doz.	HANDLE	
		Diam. In.	Lgth. Ft.			Diam. In.	Lgth. Ft.
446	\$61.00	2 1/4	3	213	\$78.00	2 1/2	5 1/2
447	62.00	2 1/4	3 1/2	214	80.00	2 3/4	4 1/2
448	66.00	2 1/4	4	215	84.00	2 3/4	5
449	68.00	2 1/4	4 1/2	216	91.00	2 3/4	5 1/2
450	70.00	2 1/4	5	217	97.00	2 3/4	6
451	63.00	2 1/2	3 1/2	219	100.00	3	5
452	67.00	2 1/2	4	220	105.00	3	5 1/2
211	69.00	2 1/2	4 1/2	221	110.00	3	6
212	74.00	2 1/2	5	...	...	...	...

Cant Hook and Peavey Handles

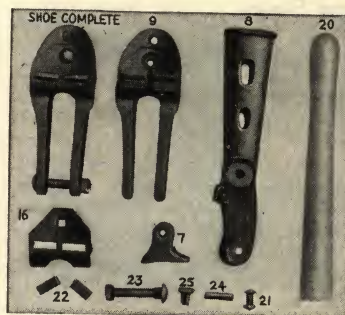
Rock Maple and Beech



These handles are carefully turned, nicely sanded and polished. Packed 12 in a carton.

No.	Per Dozen	Diam. In.	Length Feet	No.	Per Dozen	Diam. In.	Length Feet
966	\$18.00	2 1/4	3	706	\$29.00	2 1/2	5 1/2
700	19.00	2 1/4	3 1/2	707	32.00	2 1/2	6
701	22.00	2 1/4	4	708	29.00	2 3/4	4 1/2
702	24.00	2 1/4	4 1/2	709	32.00	2 3/4	5
967	18.00	2 1/2	3	710	35.00	2 3/4	5 1/2
968	19.00	2 1/2	3 1/2	711	38.00	2 3/4	6
703	22.00	2 1/2	4	712	35.00	3	5
704	24.00	2 1/2	4 1/2	713	38.00	3	5 1/2
705	27.00	2 1/2	5	714	41.00	3	6

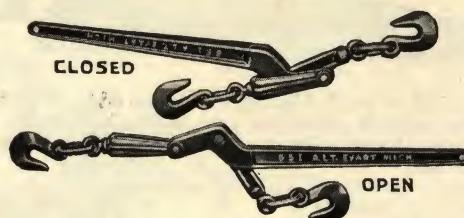
Parts for No. 9 Badger Car Movers



No.	Description	Each
9	Shoe Only—Toe Rivet, Bolt..	\$3.50
8	Socket Complete—Cam, Bolt, Rivet.....	5.00
8	Socket Only	3.50
73	Cam.....	1.75
16	Spur Plate with Bolt.	1.00
20	Handle.....	3.50
21	Plate Bolt..	.10
22	Slip-Proof Spurs-Dbl.	.65
23	Bolt for Attaching Shoes to Socket....	.20
24	Cam Rivet..	.10
25	Toe Rivet..	.20

No.	Description	Each
9	Shoe Comp. with Spurs, Plate, Bolt.....	\$5.00

American All Steel Load Binders



For binding logs, lumber, pipe, hay or loads of every description. Forged steel double swivel.

Packed 4 to a box.

No.	Per Dozen	Description	Max. Size Chain In.	Take-Up In.	Lgth. Lever In.	Wt. Lb.
305	\$48.00	Little Giant	3/8	4	15	5
306	54.00	Standard	1/2	4 1/2	17 1/2	8
651	68.00	Regular	1/2	4 1/2	20 1/2	10
652	95.00	Large	5/8	5	22 1/2	14
207	62.00	Trucker's Special	1/2	4 1/2	12	7
*207C	90.00	Trucker's Special	1/2	4 1/2	12	12

*With 4 feet of 3/8-inch chain on clevis end.

Coffing Load Binders



Drop-forged steel hooks with swivels on both ends. The take-up is 5/8 inch to each stroke of the handle.

If load becomes loose, it can be bound tight simply by drawing on lever. After load is taken off chain, both levers can be tripped at once and chain can be pulled through binder free.

Can also be used as a hoist and for stretching wire or cable.

Model.....	A	F
Load Binder.....	each \$23.50	\$31.50
Extra Chain.....	per lifting ft. 1.40	2.75
Rated Capacity.....	pounds 3000	6000
Standard Lift.....	inches 20 1/2	19 1/2
Standard Chain.....	feet 2	2
Weight.....	lb. 11 1/2	24

No. 58 Atkins Reliable Straight Back Hand Saws



Made of high grade special steel, hardened and tempered, taper ground. Ribbon edge. Filed and set.

Beech handle is cherry stained and lacquered. Attached with three screws and medallion.

Packed 4 in a box.

Length.....inches	20	26
Points per Inch, Crosseut.....	10	8, 10
Points per Inch, Rip.....	5 1/2	5 1/2
Width at Point.....inches	1 1/2	1 3/4
Width at Butt.....inches	5 1/4	6 1/4
Weight per Dozen.....pounds	14	26

No. 65 Atkins Straight Back Hand Saws



Made of silver steel; high finish; ribbon edge. Fitted with Perfection carved perfection grip hardwood handle. Has three nickel-plated screws and one medallion. Filed and set ready for use.

Length.....inches	20	24	26
Points Cut-Off.....	10	8, 10	8, 10, 11
Points Rip.....	5 1/2	5 1/2	5 1/2
Width at Point...inches	1 5/8	1 3/4	1 3/4
Width at Butt.....inches	5 3/8	6 1/4	6 9/16
Weight per Dozen...lb.	14	20	24

**No. 2000 Atkins Straight Back Hand Saws
Ship Pattern**



Genuine silver steel blade taper ground, polished and etched.

Hardwood handle with perfection hang. Natural lacquer finish. Handle secured with two nickeled screws and one medallion.

Length, 26 inches. Points per inch, cutoff, 8 and 10. Points per inch, rip, 5 1/2. Width at point 1 3/4 inches; width at butt, 6 1/4 inches.

Packed 4 in a box; weight per dozen, 29 pounds.

No. 2000.....each

No. 400 Atkins Straight Back Crosscut and Rip Saws

Ship Pattern



Silver steel blade. Rosewood handle, mirror finish.

Packed in attractive individual boxes.

Length.....inches	26
Points per Inch, Crosseut.....	8, 10, 12
Points per Inch, Rip.....	5 1/2
Width at Point.....inches	1 3/4
Width at Butt.....inches	6 1/4
Weight per Dozen.....pounds	30

No. 20 Atkins Plaster Saws



For cutting all types of hard wall plaster. Blade is Atkins special steel, tempered hard. Three points to 1 inch. Ground same gage on toothed edge and back. Filed straight and set.

Length, 28 inches.

Packed 6 in a box. Weight, per dozen, 26 pounds.

No. 100 Atkins Flooring Saws



This saw is designed for sawing into flat surfaces, such as floors, without necessity of boring or using keyhole saw or chisel. The point is toothed on both edges so that out-of-the-way spots may be reached with ease.

Made of Silver steel, polished and etched. Genuine apple handle; polished, not carved. Two screws and medallion. Made in 18-inch length only. Has 10 points to the inch.

Packed 4 in a box.

Weight per dozen, 16 pounds.

No. 10 Atkins Steam Fitter Saws



Used by plumbers and steam fitters. Fast and easy cutting. Made of 18-gage special steel, extra fine temper.

Beech handle, dark brown. Fastened by 3 screws and medallion.

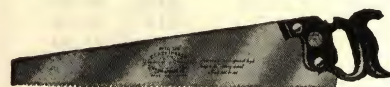
Length, 16 inches. Points per inch, 6 or 8. Width at point, 1 inch. Width at butt, 4 3/4 inches.

Packed 4 in a box.

Weight per dozen, 12 pounds.

No. 10.....per dozen

No. 21 Atkins Metalcutting Hand Saws



Recommended for cutting all ordinary metals and especially sheet metal. Made of genuine silver steel and tempered for slow filing. Straight breast and back, taper ground 18 gage on tooth edge, 20 gage on back, and tapering to 23 gage on point. Milled teeth 15 points per inch. Handle of thoroughly seasoned beech fastened by 2 screws and medallion. No handle vibration.

Packed 3 in box.

Length.....inches	18	20	24
Width at Point.....inches	1 1/2	1 1/2	1 5/8
Width at Butt.....inches	4 1/2	4 3/4	5 1/2
Weight per Dozen.....pounds	13	15	20

No. 25 Atkins Dovetail Saws

Silver steel blade. Rigid bright spring steel back. Width under back, 1 5/8 inches. Has 17 points per inch.

Length, 10 inches.

Beech handle; lacquered. Nickel-plated ferrule.

Packed 4 in a box. Weight per dozen, 7 pounds.

No. 25.....per dozen

No. 3 Back Saws



Made of special steel.

Thoroughly seasoned beech handle, lacquered and polished.

Back is blued.

Packed one-third dozen in a box.

Length.....inches	10	12	14
Per Dozen.....			
Weight per Dozen.....pounds	13	17	20

No. 2 Atkins Back Saws



Silver steel, hardened and tempered, flat ground. Polished and etched. Spring steel back keeps blade true; blued. Hardwood handle, full lacquered; 2 screws and 1 medallion. Filed and set.

Packed 4 in box.

Length.....inches	12	14	16
Points per Inch.....	14	14	12
Under Back.....inches	3	3½	3¾
Gage.....	21	21	20
Weight per Doz.....pounds	17	20	24

No. 1 Atkins Mitre Box Saws



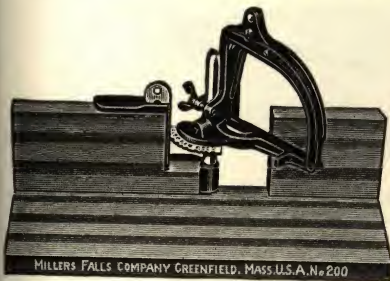
Will fit all standard mitre boxes. Filed and set.

Silver steel blade, hardened and tempered, polished and etched 11 points to the inch. About 20 gage. Extra heavy blued spring steel back. Clamped tight to hold blade rigid. Beech handle apple stained and full polish; 2 screws and 1 medallion.

Packed 4 in a box.

Length.....inches	22	24	26	28	30
Length Under Back.....inches	4	4	4	5	6
Weight per Dozen.....pounds	36	40	43	48	55

No. 200 Millers Falls Mitre Boxes



Saw guide is designed so either a back or panel saw may be used.

Saw guide can be adjusted for various angles and heights.

Steel index plate, indexed and marked for 0, 9, 22½, 30, 36,

and 45-degree angles, right or left, is fixed to saw guide.

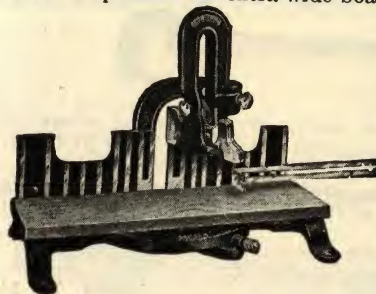
Packed 1 in a wooden box.

Weight, 6 pounds.

No. 200.....each \$12.00

No. 150 Stanley Open Front Mitre Boxes

Will take stock up to 4 inches in height. Open front makes it possible for extra wide boards to be sawed at any



angle between 45 and 90 degrees. Swivel arm has latch pivot for 4, 6 and 8 sided figures. Swivel can be locked at any angle. Saw guide adjusts itself for any thickness of saw and can be adjusted vertically to base and square with back. Can be used with back, panel, or cross cut panel saw. An adjustable gage acts as a stop for short work. Base, swivel, yoke

are black; board, bright orange. Weight, 17 pounds. No. 150 (without Saw).....each \$15.45

No. 100 Stanley-Marsh Mitre Machines

Used for all classes of work although originally designed for the joining of picture frames. Any type of mitered joint may be readily cut, glued and nailed assuring close, tight cutting corners.

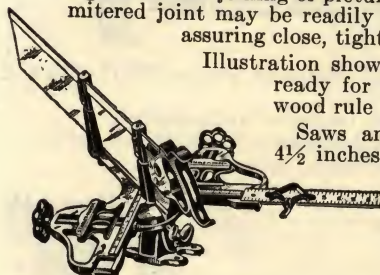


Illustration shows the machine set up ready for use, with low clamp, wood rule and rule gage.

Saws any molding less than 4½ inches in width and clamps any frame 7½ x 7½ inches or larger. Machine may be tilted for boring and nailing frame.

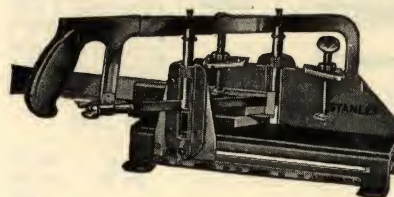
Made entirely of metal; enamel finish. Shipping weight, 46 pounds.

No. 100, with 22x4-Inch Saw.....each \$64.00

No. 2360 Stanley Mitre Boxes

Metalcutting

Cuts metals, wood, plastics, or any kind of trim or molding that can be cut with a hack saw. Replaceable base board of pressed wood.



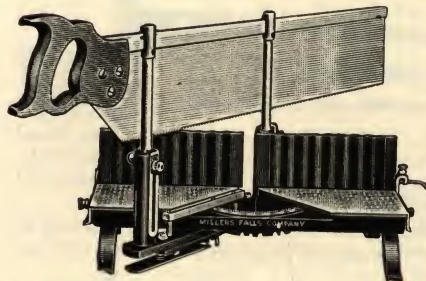
Degree scale is accurately marked for any angle from 45 to 90° right and left. Two maple blocks support a number of common shapes.

A special saw frame with a 12x9/16x.025-inch, 32-tooth blade is furnished. Capacity depth, 2¼ inches. Capacity width, 3 inches. Overall dimensions, 12½x5¼ inches.

Packed 1 in a box. Shipping weight, 11 pounds.

No. 2360.....each \$23.70

Goodell-Pratt All Steel Mitre Boxes



Saw guides and carriage have oilite bearings. Swing lever has position lock at most used angles; intermediate compression lock. Length gage and acute angle attachments.

Capacity, right angles, 10½ inches; mitre, 7¼ inches.					
No.....	1244C	1264C	1285C	1305C	1306C
Each.....	\$55.00	56.00	60.00	62.00	64.00
Dimen. Saw.....in.	24x4	26x4	28x5	30x5	30x6
Net Wt.....lb.	22½	22	23	23½	25

No. 9 Atkins Special Interchangeable Compass Saws



Designed specially for use by electricians and plumbers. Blade is made from silver steel and is extra heavy and stiff.

Has carved beech handle with a tightening bolt and wing nut that fits in a hole, so that the blade will not pull out of the handle:

Replacement blades are available.

Length.....inches	12	14
No. in Box.....	6	6
Weight per Dozen.....pounds	6	7

No. 10 Atkins Compass Saws



Silver steel, hardened, tempered, ground, 17x18-gage and polished.

Carved beech handle, lacquered and polished.

Nickeled wing nut and screw.

Slotted end. Filed and set.

Packed 6 in a box.

Length.....inches	12	14
No. 10, Saw Complete.....per dozen	.....	.....
Blade Only.....per dozen	.....	.....
Points per Inch.....	8	8
Weight per Dozen.....pounds	6	7

No. 4 Atkins Plumbers' Nest of Saws



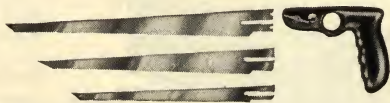
Has three blades; one each, keyhole, compass and nail blades. Tempered and ground and correctly toothed.

Nail blade has milled teeth. Beech handle fully lacquered and polished. One screw and wing nut.

Packed 1/4 dozen in a box.

Description	Points Per In.	Wt. Lb. per Doz.
No. 4 Complete.....	..	10 3/4
10-In. Keyhole Blade.....	10	3 1/4
14-In. Nail Blade.....	15	2
14-In. Compass Blade.....	8	3
Handle and Screws.....	..	5

No. 36 Atkins Nest of Saws



Consists of three hardened and tempered silver steel blades: 10-inch keyhole blade, 18x19 gage, 10 points per inch; 12-inch compass blade, 17x18 gage, 8 points per inch; 14-inch nail blade, 17x19 gage, 13 points per inch.

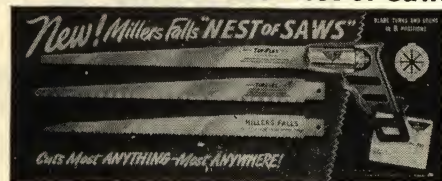
Blades are interchangeable and reversible. Slotted end of the nail blade is notched permitting three alternate cutting angles. Set and filed.

Tenite moulded pistol grip handle. Blade held by one nickeled saw screw and clamp bolt with wing nut.

Packed 3 in a box.

Weight per dozen complete, 8 1/2 pounds.

No. 725 Millers Falls Nest of Saws



This tool is designed for carpenters, auto mechanics, plumbers, farmers, hobbyists, etc.

A combination of No. 525 Rotatable Blade Keyhole Saw with two extra interchangeable blades—one each, No. 24 and No. 27.

Saw has pistol grip handle, rotating and locking of the blade in any of eight positions.

The combination is mounted on a two color, heavy 10-ply card.

Packed 4 cards in a box. Weight 1 5/8 pounds.

No. 725.....each \$2.95

No. 10 Atkins Compass Hand Saw Handles



This handle is made of beech. It is carved and interchangeable.

Handle is furnished slotted for blade; not bored unless specified.

Clear lacquered and polished.

Packed 1/2 dozen in a box.

Screw not included.

Atkins Special Nail Cutting Blades

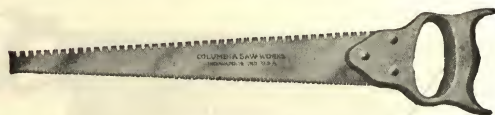


A metalcutting blade made of alloy steel and tempered exceedingly hard for cutting nails, pipe or conduit.

Taper ground from toothed edge to back; clears itself readily. Length, 18 inches. Points per inch, 15.

Weight per dozen, 6 pounds.

No. 2 Atkins Duplex Pruning Saws



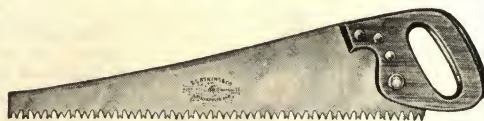
Made of Atkins high grade Sheffield quality steel, specially hardened and tempered. Will require little refiling. Toothed on one edge with tattle shaped tooth for extra heavy coarse work and with fine tooth on the opposite edge for fine cutting. The handle is of thoroughly seasoned, air-dried applewood, finely finished, varnished edge, easy grip pattern, fastened to the blade with 3 screws.

There are 8 points to the inch on one side, tattle tooth on other side.

Length, 18 inches.

Packed 4 in a box. Weight per dozen, 11 pounds.

No. 40 Atkins Tattle Tooth Pruning Saws



Silver steel, high grade; tattle tooth pattern. Extra fine temper sharp teeth.

Handle of kiln dried beech, special pattern. Extra large grip reinforced with dowel pin making it rigid. Fully lacquered and polished. Fastened by 3 screws and 1 medallion.

Packed 6 in a box.

Length.....inches	20	24
Width at Point.....inches	1 1/8	1 1/2
Width at Butt.....inches	5	5 3/4
Weight per Dozen.....pounds	17	21

No. 5 Atkins Perfection Crosscut Saw



Designed for cutting yellow pine, hardwoods and resinous, knotty timber. Unusual capacity for speed and light running. No. 5, extra wide blade preferable for large heavy timber. Made of silver steel.

Width at ends $3\frac{1}{8}$ inches; width at center $6\frac{3}{8}$ inches to 7 inches.

Tooth edge, 14 gage. Back at center, 20 gage. Back at ends, 17 gage.

Length.....feet	5½	6
No. 5.....each		
Weight.....pounds	5½	6½

No. 337 Atkins Common Tooth Crosscut Saws



Made of special steel, 14x16 gage. Packed 50 in a case. Handles not included.

Length.....feet	4	4½	5	5½	6
Weight per Case.....pounds	235	265	310	345	410

No. 16 Atkins Pruners



Consists of a strong casting, hollowed and bored for slipping on to a pole, avoiding the use of ladders.

A 16-inch curved blade with peg teeth, fastened to the casting by use of a $\frac{3}{16}$ bolt and wing nut. Three holes in butt end of blade work in a peg, so that the blade may be changed to cut at any angle. Blade of silver steel.

Packed 2 in a carton. Pole not furnished.

No.....	16
Per Dozen.....	
Length.....inches	16
Weight, per Dozen.....pounds	13

No. 17 Atkins Forester Pruning Saws



Silver steel.

Length of blade 26 inches; width at point $1\frac{1}{2}$ inches;

width at butt $3\frac{1}{2}$ inches; $4\frac{1}{2}$ points to the inch; large peg teeth; cuts large or small limbs readily.

Packed 4 in a box. Weight 16 pounds per dozen.

No. 17.....per dozen
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No. 18 Atkins Folding Pruning Saws



Silver steel blade, highly polished. Width at point, $\frac{1}{2}$ inch; width at butt, $1\frac{1}{8}$ inches; 8 points per inch.

Has folding handle to cover hook back peg tooth edge of saw. High quality beech handle, fully lacquered. Nicked wing nut and rivet.

Packed 6 in a box.

Length.....inches	12
No. 18.....per dozen	.....
Weight per Dozen.....pounds	8

No. 379 Atkins Tuttle Crosscut Saws Hollow Back



Special steel, $3\frac{1}{2}$ inches wide at ends and center in all lengths.

Length.....feet	5	5½	6
Weight per Case of 50.....pounds	195	225	240
No. 379.....each	.....	.....	.....

No. 390 Atkins Tuttle Tooth One-Man Crosscut Saws



Special steel straight back blade, hardened and tempered. Taper ground, clears easily, runs fast. Filed and set ready for use.

Saws, 3 to 4 feet, 16x18 gage; $4\frac{1}{2}$ feet, 15x17 gage.

Packed 1 in a case.

Length.....feet	3	3½	4	4½
Width at Point.....inches	2¼	2¼	2¾	2¾
Width at Butt.....inches	6¾	7	7¼	7½
Shipping Weight.....pounds	2½	3¼	4½	5½
No. 390.....each	.....	.....	.....	.....

No. 2 Atkins One-Man Crosscut Saw Handles



Made of selected hardwood thoroughly seasoned and dried. Fully lacquered.

Slit only; bored for two screws and one medallion when specified.

Packed 1 dozen in a carton without screws; weight, $8\frac{3}{4}$ pounds.

No. 202 Atkins Supplementary Crosscut Saw Handles



For One-Man Saws

Made of thoroughly seasoned air-dried hardwood stock. Has socket and washer of high-grade ferrule steel, and machine steel bolt with locked rivet feature.

Packed one dozen to a carton.

Weight per dozen, 4 pounds.

No. 202.....per dozen
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No. 8 Atkins Crosscut Saw Handles

No. 8 saw handle is $10\frac{1}{2}$ inches long.

Loop of extra strong high tensile strength steel.

Electric welded.

Gray iron castings socket blue, blade washer yellow.

Malleable Nuts.

No. 8 is packed 10 pairs in a carton weighing 18 pounds.

No. 8, Short Pattern handle, is $7\frac{3}{4}$ inches long, packed 10 pairs in a carton weighing 17 pounds.

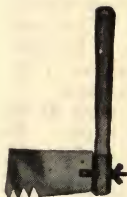
No. 8, Regular.....per pair

No. 8, Short Pattern.....per pair

No. 11 Atkins Cross-Cut Saw Handles

Length $13\frac{3}{4}$ inches. Climax pattern. Reversible. Cast iron face plate and washer. Malleable bolt with lock rivet feature, preventing rivet from becoming detached. Packed 10 pairs in carton weighing 16 pounds.

No. 11.....per pair



Atkins Hand Saw Handles



Furnished slotted for blade; bored if specified. All material used is air-dried and seasoned. Handles do not include saw screws.

Packed 12 in a box.

No.	Material	—Saw Lengths, Inches—	
		18-22 per Doz.	24-26 per Doz.
400	Rosewood	.....	.....
65	Selected Hardwood	.....	.....
51-54	Selected Hardwood	.....	.....
21 Metal	Beech	.....	.....
22 Plumbers	Beech	.....	.....
58-59	Beech	.....	.....
1	Beech	.....	.....
2	Beech	.....	.....

No. 42 Stanley Saw Sets Pistol Grip



CAPACITY: back, panel, hand and small circular saws, 18 gage and thinner having from 4 to 16 points to the inch.

Micro-setting calibrated anvil adjustment wheel, positive locking screw. Hardened and tempered tool steel anvil.

Adjustable graduated self locking positive saw stop. Gives more or less set to saw teeth to be set.

Single action, hardened and tempered tool steel plunger. Smooth black finish.

Packed 1 to a box. Weight, 1 pound.

No. 42.....each \$3.50

No. 43 Stanley Saw Sets



This saw set can be readily adjusted to give a greater or less set to the teeth of the saw, according to way saw is to be used, for coarse or fine work. As the anvil or part against which the plunger works is graduated, the same adjustment can easily be obtained for duplicate work.

For cross-cutsaws.

Finished in black. Also furnished with an attachment for setting large, circular saws. Packed 1 in a box. Wt., 1½ lb.

No. 43.....each \$7.00

No. 7 Taintor Positive Saw Sets



Consists of a frame to which are attached two movable handles, an anvil and a punch. A spring opens the handles. It is self-adjusting, excepting the turning of

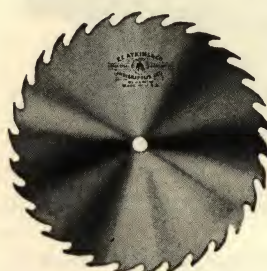
the anvil to change the setting. The anvil is a block of steel having ten sides and faces which are numbered. The faces are of three lengths, placed in lettered divisions, F for fine, M for medium, and C for coarse teeth. Wt. per doz., 7 lb.

Packed 1 in cardboard box, 6 in counter display box.

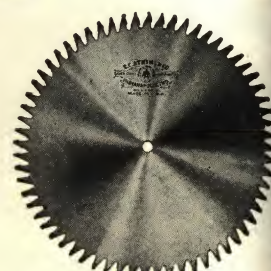
No. 7.....	each	\$1.89
Anvil.....	each	.20
Plunger.....	each	.15
Spring.....	each	.10
Set-Screw.....	each	.10

Atkins Solid Tooth Circular Saws

For Wood



Rip



Crosscut

Includes edger, trimmer and slasher saws.

All saws filed and set, ready for use.

Diam. Inches	Thick- ness Gage	Size of Hole Inches	Diam. Inches	Thick- ness- Gage	Size of Hole Inches
4	19	1/2	44	8	2
5	19	1/2	46	8	2
6	18	3/4	48	8	2
8	18	7/8	50	7	2
10	16	1	52	7	2
12	15	1	54	7	2
14	14	1 1/8	56	7	2
16	14	1 1/8	58	7	2
18	13	1 1/4	60	6	2
20	13	1 5/16	62	6	2
22	12	1 5/16	64	6	2
24	11	1 5/8	66	6	2
26	11	1 3/8	68	5	2
28	10	1 1/2	70	5	2
30	10	1 1/2	72	5	2
32	10	1 5/8	74	5	2
34	9	1 5/8	76	5	2
36	9	1 5/8	78	5	2
38	9	1 5/8	80	5	2
40	9	2	82	5	2
42	8	2	84	5	2

All saws under 6 inches in diameter take list of 6-inch saw.

All saws of odd diameter, not listed, take price of next largest size listed. No extra charge for saws one gage thicker than list. No extra charge for saws one to three gages thinner than list; when more than three gages thinner, add 5 per cent to list for each gage. Saws 48 inches and under, and 62 inches and over, in diameter, more than two gages thinner than list not warranted. Saws 50 to 60 inches in diameter thinner than 10 gage not warranted. Saws 42 inches or less in diameter beveled one gage without extra charge. Saws 44 inches or larger are beveled 2 gages without extra charge. Saws hollow or concave ground add for each additional gage hollow or concave ground double the list for beveling.

If log saws are to be driven by gas engines, please state full particulars as to horsepower, speed and feed.

When ordering specify whether crosscut or rip is wanted.

No. 1-A Atkins Speed Saw Filers



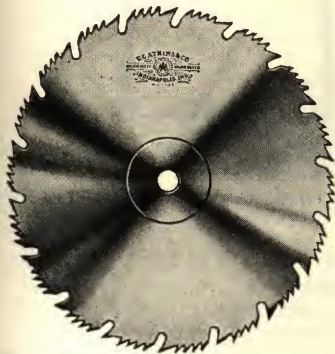
For accurate saw filing on hand or rip teeth.

Tool easily fits over the teeth and guides the file regardless of point size. Two positive adjustments set and holds the correct pitch and angle.

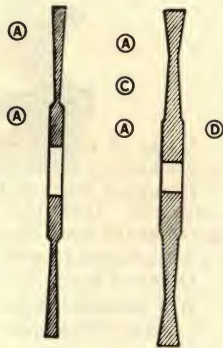
Packed in an attractive counter display containing 6 filers.

Weight per dozen, 7 pounds.

Atkins Silver Steel Circular Miter Saws Miter, Special and Dual Ground



No. 37 Tooth Miter Saw



Method of Ordinary Hollow Grinding Method of Dual Grinding



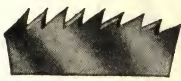
No. 37, Combination Rip, Crosscut, Miter



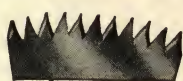
No. 27, General Purpose, Rip, Crosscut



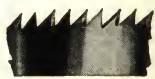
No. 2 Rip



No. 7, General Purpose, Rip, Crosscut



No. 8 Crosscut



No. 16, General Purpose, Rip, Crosscut



No. 44, Combination, Rip, Crosscut

Used in furniture, cabinet, and box factories, manual training schools, etc.

Ground to run without set.

Dual ground saws will cut smooth enough at 15 foot board feet per minute to make glue joints direct from saw without planing, while ripping, cutting off, or mitering. Recommended for fast feed, high speed machines of 3600 rpm.

Dual and special grind is one gage less at D than at collar A.

Miter saws thinner than gages shown are not recommended.

In ordering give quantity, diameter, gage at tooth, gage at hole, additional gages beveling if any, tooth number, diameter of hole, diameter of collar on mandrel.

Diam. Hole In.	Diam. Hole In.	Miter Ground		Special Ground		Dual Ground		Extra for Each Additional Gage		Extra for Each Additional Gage		Diam. Collar	
		Each	*Gage Collar at A	Each	†Gage Collar at A	Each	†Gage Collar at A	Each	†Gage Collar at A	Each	†Gage Collar at A	Each	†Gage Collar at A
6	3/4	....	16	2 1/2	....	....	....	....	....	....	....	14	2 1/2
7	3/4	....	16	2 1/2	....	....	....	....	....	....	....	14	2 1/2
8	7/8	....	14	3 1/4	....	....	....	....	....	....	....	13	3 1/4
9	7/8	....	14	3 1/4	....	....	....	....	....	....	....	13	3 1/4
10	1	....	14	3 1/2	....	13	4	....	....	....	....	12	4
12	1	....	13	4	....	12	4	....	....	....	....	11	5
14	1 1/8	....	12	5	....	11	5	....	....	....	....	9	5
16	1 1/8	....	12	5	....	11	5	....	....	....	....	10	6
18	1 1/4	....	11	6	....	10	6	....	....	....	....	9	8
20	1 1/4	....	11	6	....	10	6	....	....	....	....	9	8
22	1 1/4	....	10	6	....	9	6	....	....	....	....	9	9
24	1 3/8	....	10	6	....	9	6	....	....	....	....	9	10

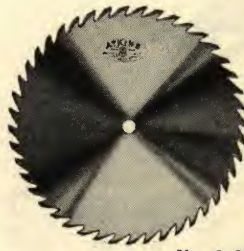
Miter saws 9 inches and less are Miter Ground. Miter saws 10 inches in diameter and over are Special Ground unless otherwise ordered.

*Miter grinding, rim and collar are the same gage with 3-gage total hollow ground.

†Special grinding, rim and collar are the same gage with 3-gage total hollow grind at C.

‡Dual grind, rim and collar are the same gage with 4-gage total hollow grind at C.

Atkins Mechanic-Kut Circular Saws For Wood-Cutting



Individually packed.

No. A-2, Rip—Flat Ground
Cuts fast yet does not wobble. Set for clearance and filed.

No. A-8, Cut-Off—Flat Ground
For smooth cutting across the grain. Set for clearance and bevel filed.

No. A-44, Combination—Flat Ground
Will rip and crosscut. Set for clearance and filed.

No. A-37, Flat Ground Miter
Rips, crosscuts and mitres equally well. Set and filed.

No. A-37-H, Hollow Ground Miter
Will rip, crosscut or miter smoothly; saws fast without heating up. Hollow ground for clearance.

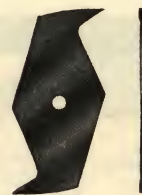
Coarse Tooth Free Cutting
A free cutting blade for general work. Requires very little power for ripping. Danger of kickback reduced to a minimum.

No.	Diam. In.	No. of Teeth	Hole Diam. In.	No.	Diam. In.	Gage	No. of Teeth	Hole Diam. In.
A-2	6 18	36	1 1/2-5/8	A-37	6	18	...	1 1/2-5/8
	7 18	36	1 1/2-5/8		7	18	...	1 1/2-5/8
	8 18	36	1 1/2-5/8-3/4		8	18	...	1 1/2-5/8-3/4
	10 16	36	5/8-3/4-1		10	16	...	5/8-3/4-1
	12 14	36	3/4-1-1 1/8		12	14	...	3/4-1-1 1/8
A-8	6 18	100	1 1/2-5/8	A-37-H	6 16x19x16		...	1 1/2-5/8
	7 18	100	1 1/2-5/8		7 16x19x16		...	1 1/2-5/8
	8 18	100	1 1/2-5/8-3/4		8 14x17x14		...	1 1/2-5/8x3/4
	10 16	100	5/8-3/4-1		10 14x17x14		...	5/8x3/4x1
	12 14	100	3/4-1-1 1/8		12 13x16x13		...	3/4x1x1 1/8
A-44	6 18	44	1 1/2-5/8	Coarse Tooth Saw	6	18	8	1 1/2-5/8
	7 18	44	1 1/2-5/8		7	18	8	1 1/2-5/8
	8 18	44	1 1/2-5/8-3/4		8	16	8	1 1/2-5/8-3/4
	10 16	44	5/8-3/4-1		10	16	8	5/8x3/4-1
	12 14	44	3/4-1-1 1/8		12	14	8	3/4x1x1 1/8

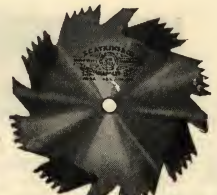
Atkins Groover or Dado Heads



Dado Head



Inside Cutter



Outside Cutter

Made of silver steel. Will cut a perfect groove with or across the grain, and makes an exceedingly smooth even cut. A complete set consists of 2 outside cutters, and as many inside cutters as the width of the groove requires.

Outside cutters are 1/8 inch thick, and will cut a 1/8-inch groove on any size set. The 2 outside cutters together will cut 1/4-inch grooves on any size set.

Inside cutters are 1/16, 1/8 and 1/4 inch thick.

The set will cut any groove from 1/8 inch to maximum width by the steps given in the table following.

Set No.	Max. Width Cut, In.	No. INSIDE CUTTERS			Steps In.
		1/4-In. Wide	1/8-In. Wide	1/16-In. Wide	
1	1/16	1	1	1	1/16
2	1/16	1	1	1	1/16
3	1/16	1	2	1	1/16
4	1/16	2	2	1	1/16
5	1/16	4	2	1	1/16
6	2/16	6	2	1	1/16
7	3/16	10	2	1	1/16
8	4/16	14	2	1	1/16

Prices upon application.

Atkins Silver-Steel Narrow Band Saws



For Wood

Width In.	Std. Ga.	Std. Pts.	Std. No. Teeth per In.	Wt., Lb. per 100 Ft.	Width In.	Std. Ga.	Std. Pts.	Std. No. Teeth per In.	Wt., Lb. per 100 Ft.
1/8	22	8	7	1.05	1/2	22	6	5	5.36
1/8	25	7	6	1.05	1/2	25	6	5	5.36
3/16	21	5	4	1.57	5/8	19	3	2	6.70
3/16	22	5	4	1.57	5/8	21	4	3	6.70
3/16	22	7	6	1.57	5/8	21	5	4	6.70
3/16	25	7	6	1.57	5/8	22	5	4	6.70
1/4	21	4	3	2.35	5/8	25	5	4	6.70
1/4	21	5	4	2.35	3/4	20	4	3	8.05
1/4	21	6	5	2.35	3/4	21	3	2	8.05
1/4	22	5	4	2.35	3/4	21	4	3	8.05
1/4	22	6	5	2.35	3/4	21	5	4	8.05
1/4	22	7	6	2.35	3/4	22	4	3	8.05
1/4	25	7	6	2.35	3/4	22	5	4	8.05
3/8	21	4	3	3.52	3/4	25	5	4	8.05
3/8	21	5	4	3.52	1	20	3	2	11.75
3/8	21	6	5	3.52	1	20	4	3	11.75
3/8	22	5	4	3.52	1	20	5	4	11.75
3/8	22	6	5	3.52	1	21	3	2	11.75
3/8	25	6	5	3.52	1	21	4	3	11.75
1/2	20	4	3	5.36	1	21	5	4	11.75
1/2	21	4	3	5.36	1	22	5	4	11.75
1/2	21	5	4	5.36	1 1/4	20	3	2	14.71
1/2	21	6	5	5.36	1 1/4	20	4	3	14.71
1/2	22	3	2	5.36	1 1/2	20	3	2	17.63
1/2	22	4	3	5.36	1 3/4	20	3	2	20.57
1/2	22	5	4	5.36	...	...	...	...	...

Trojan Jeweler's Piercing Saw Blades



Hardened and tempered for metal, bone, pearl and other hard substances. Approximate weight per gross, 3 ounces.

No.	Per Gross	Thick. In.	Width In.	Teeth per In.	Lgth. In.	No.	Per Gross	Thick. In.	Width In.	Teeth per In.	Lgth. In.
3/0	\$6.00	.010	.020	66	5	6J	\$4.80	.016	.034	32	6
2/0	6.00	.010	.021	64	5	7J	4.80	.022	.044	30	5
1/0	6.00	.011	.025	64	5	8J	4.80	.023	.046	20	5
1J	6.00	.012	.026	56	5	10J	4.80	.016	.054	30	5
2J	6.00	.014	.029	48	5	12J	4.80	.016	.054	20	5
3J	6.00	.013	.030	44	5	12J6	4.80	.016	.054	20	6
4J	6.00	.015	.032	40	5	14J	4.80	.020	.070	15	5
5J	6.00	.014	.033	36	5	14J6	4.80	.020	.070	15	6
6J	4.80	.016	.034	32	5	15J	4.80	.020	.085	12	5

Trojan Coping or Scroll Saw Blades



Fast cutting pin end blade with filed and set teeth, oil hardened and tempered. Width, 1/2 inch; length, 6 1/2 inches. Packed 6 to a sealed envelope package; 24 packages to a gross. Weight per gross, 1 pound.

No. 22P, Medium, 15 Teeth.....per gross \$7.20
No. 33P, Coarse, 10 Teeth.....per gross 7.20

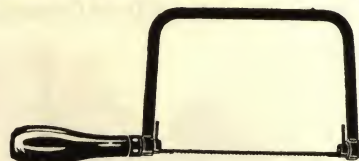
As Distributors for

E. C. ATKINS & COMPANY

WE are in a position to furnish promptly their many products.

If the item you wish is not found in this catalog, please ask for the complete Atkins catalog covering Saws, Knives, and other tools.

No. 20 Trojan Coping Saw Frames



Made of special rolled spring steel. All exposed metal parts heavily nickel plated.

Handle is made of hard wood, French finish, highly hand polished. Assembled with special long hexagon nut and extra heavy steel ferrule.

Adjustment screws are extra heavy and well threaded.

Depth of frame, 4 1/2 inches deep.

Will accommodate a 6 1/2 inch blade.

Packed 1/2 doz. per box; weight, 7 pounds.

No. 20each \$.90

No. 40 Trojan Tool Steel Coping Saw Frames

Made of special rolled steel. Guaranteed to hold the blade rigid.

Accommodates 6 1/2-inch blades.

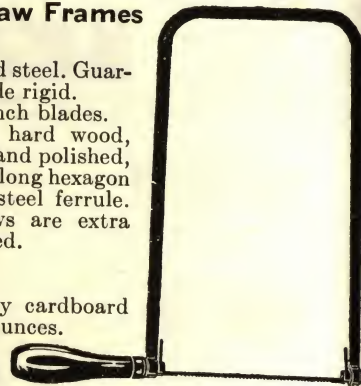
Handle is made of hard wood, French finish, highly hand polished, assembled with special long hexagon nut and extra heavy steel ferrule. The adjustment screws are extra heavy and well threaded.

Is 12 1/2 inches deep.

Plated finish.

Packed 6 in a heavy cardboard box. Weight each, 13 ounces.

No. 40.....each \$1.25



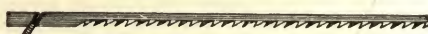
Trojan Coping Saw Blades

Will fit all standard coping saw frames.

The lock loop (patented) holds the saw firmly in the frame, permits the use of a narrow saw blade which turns easily and cuts freely.

Has filed and set teeth, oil hardened and tempered.

No. 2 Coarse, Wood Cutting



Width.....inches 3/32
No. 2.....per gross \$9.60
No. Deep Teeth per Inch.....15
Length.....inches 6 1/2

No. 3 Medium, Wood Cutting



Width.....inches 1/16
No. 3.....per gross \$9.60
No. Shallow Teeth per Inch.....15
Length.....inches 6 1/2

No. 5 Fine, Metal Cutting



Width.....inches 1/16
No. 5.....per gross \$9.60
No. Teeth per Inch.....20
Length.....inches 6 1/2

No. 6 Extra Fine, Metal Cutting



Width.....inches 1/16
No. 6.....per gross \$9.60
No. Teeth per Inch.....32
Length.....inches 6 1/2

Stanley Smooth Bottom Adjustable Iron Planes

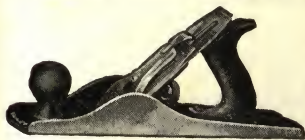


Adjustable cutters. Rosewood handle and knob.
Packed 1 in a box.

No.....	2	3	4	4½
Each.....	\$7.30	7.30	7.60	9.00
Length.....inches	7	8	9	10
Cutter.....inches	1½	1¾	2	2¾
Weight.....pounds	2½	3½	3¾	5

Stanley Smooth Bottom Iron Jack Planes

This jack plane is made from grey iron castings.



Rosewood handle and knob. Adjustable cutters.
Packed 1 in a box.

No.....	5	5¼	5½
Each.....	\$8.30	7.90	11.00
Lgth..in.	14	11½	15
Cutter..in.	2	1¾	2¾
Wt...lb.	5	3¾	6

No. 6 Stanley Adjustable Iron Fore Planes

Smooth Bottom



Cutter, 2¾ in., adjustable endwise and sidewise. Rosewood knob. Lacquer finish. Length 18 in. Packed 1 in box. Weight 7 lb.

No. 6.....each \$12.50

No. 7 Stanley Iron Jointer Planes

Smooth Bottom



Adjustable cutter, 2¾ inches.
Length, 22 inches.
Packed 1 in a box.
Weight, 8 pounds.
No. 7.....each \$15.00

No. 8 Stanley Iron Jointer Planes

Smooth Bottom



Rosewood handle and knob.
Adjustable cutter, 2¾ inches.
Length, 24 inches. Packed 1 in a box.
Weight, 9½ lb.
No. 8.....each \$17.00

No. 40 Stanley Scrub Planes



Will plane down a board or plank to rough dimensions faster and more accurately than can be done with a saw or hatchet. Extra heavy narrow cutter has a rounded cutting edge. Sides and lever japanned. Beech handle and knob.

Cutter fitted with a cap iron. Bottom made of malleable iron.

Length, 9½ inches. Cutter, 1¼ inches.

Packed 1 in a box.

Weight, 2½ pounds.

No. 40.....each \$5.00

Stanley Iron Smooth Planes

Corrugated Bottom

Packed 1 in a box.

No.....	3C	4C	4½C
Each.....	\$7.50	7.80	9.30
Lgth.in.	8	9	10
Cutter			
...in.	1¾	2	2¾
Wt...lb.	3½	3¾	4¾

No. 5C Stanley Adjustable Iron Jack Planes

Corrugated Bottom

Cutters adjustable endwise and sidewise. Width cut, 2 inches. Rosewood handles and knobs. Lacquered.

Length, 14 inches.

Packed 1 in a box.

Weight, 4¾ pounds.

No. 5C.....each \$8.50

No. 6C Stanley Iron Fore Planes

Corrugated Bottom



Packed 1 in a box.

Weight 6¾ lb.

No. 6C, 18 Inches Long, 2¾-Inch Cutter.....each \$12.80

No. 7C Stanley Corrugated Bottom Iron Jointer Planes

Length, 22 inches; cutter, 2¾ in.

Packed 1 in a box.

Weight, 7¾ pounds.

No. 7C.....each \$15.30

No. 18 Stanley Adjustable Block Planes



Has adjustment for adjusting cutters endwise and side wise. Adjustable throat and knuckle joint lever.

Equipped with a steel lever or cap which snaps into position and locks the cutter when replaced.

Length, 6 inches; cutter, 1½ inches.

Packed 1 in a box.

Weight, 1½ pounds.

No. 18.....each \$5.40

No. 65 Stanley Adjustable Block Planes



Adjustable throat for coarse or fine work. Bottom and sides ground smooth. Cutter rests on seat at 12° angle; easy to plane hard woods.

Knuckle joint lever. Nickel plated trimmings. Weight, 1¾ pounds. Packed 1 to a box; 30 to a carton. Carton weight, 51 lb. No. 65, Length, 7 In. Cutter, 1½ In.each \$5.30

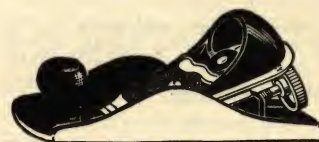
No. 220 Stanley Adjustable Block Planes

Japanned trimmings. Hardwood knob. Bottom and sides, milled and ground. Has a screw adjustment. Length, 7 inches. Cutter, 1½ inches.

Packed 1 in a box.

Weight, 1¼ pounds

No. 220.....each \$2.80



No. 110 Stanley Non-Adjustable Block Planes



Bottom and sides are milled and ground. Length, 7 inches; cutter, 1 5/8 inches. Lever cap is nickel plated. Hardwood knob.

No. 110, Weight, 1 3/4 Pounds..... each \$2.50

No. 130 Stanley Double End Block Planes



Made of high grade steel. Non-adjustable. Has two slots and two cutter seats. Length, 8 inches; cutter, 1 5/8 in. Packed 1 in a box.

No. 130, Weight, 1 5/8 Pounds..... each \$3.80

No. 95 Stanley Edge Trimming Block Planes



For trimming the edge of boards. Cutter works on a skew. Wood blocks of various bevels may be attached enabling user to make a slanting cut. Japanned.

Weight, 1 1/4 pounds each. Packed one in a box. No. 95, 6 Inches Long, 1 1/16-Inch Cutter..... each \$3.50

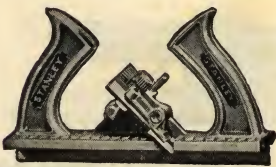
Stanley Carriage Makers' Rabbet Planes

Adjustable cutters fitted with cap iron. Rosewood handle and knob. Bottom malleable iron. Cutter, 2 1/8 inches. Packed 1 in a box.



No.	10 1/2	10
Each.....	\$11.85	12.90
Type.....	Smooth	Jack
Length...inches	9 1/4	13
Weight..pounds	3 1/4	4 1/4

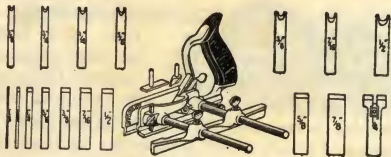
No. 148 Stanley Double End Match Planes



Has two cutters, a plow and a tongue tool, both governed by one permanent fence. The tongue tool has one edge wider than the other, which overhangs one side when tonguing on center. Both tongue and groove are cut by working the tool in the same direction, by merely reversing it end for end. Length, 9 inches.

Nickel plated. Packed 1 in a box. No. 148..... each \$8.75
Cuts.....inches 1/4
Groove on Boards.....inches 3/4-1
Centers On.....inches 7/8
Weight.....pounds 2 3/4

No. 50 Stanley Light Combination Planes



For plow, beading, matching and rabbet work. Fitted with spurs, depth gage, and a fence with a 5-inch adjustment.

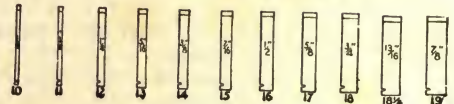
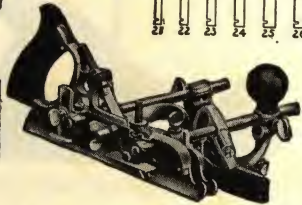
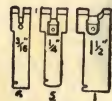
Supplied with 17 cutters, plow, rabbet, and dado, 1/8, 3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 7/8 inch, beading 1/8, 3/16, 1/4, 5/16, 3/8, 1/2, 5/8 inch, tonguing 3/4 inch.

Length, 9 1/4 inches. Nickel-plated finish.

Packed 1 in a box. Weight, 3 3/4 pounds.

No. 50..... each \$19.00

Stanley "Forty-Five" Planes



Consists of seven tools in one in compact and practical form: (1) Beading and center beading plane; (2) Plow; (3) Dado; (4) Rabbet and Filletster; (5) Match plane; (6) Sash plane; (7) Slitting plane.

The plane is fitted with spurs for use across the grain and can be used either right or left hand.

All metal parts are nickel plated. The handle, knob and fence are made of selected rosewood.

Weight, 9 1/2 pounds. Packed one in a box.

No. 45, with 23 Cutters..... each \$32.50

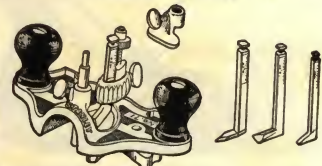
Cutters Regularly Supplied with Plane

No.	Size Inches	Style of Tool	Each	No.	Size Inches	Style of Tool	Each
1	1 1/2	Sash.....	\$.95	17	5/8	Plow and Dado	\$.65
5	1 1/4	Match.....	.90	18	3/4	Plow and Dado	.65
6	3/16	Match.....	.85	18 1/2	13/16	Plow and Dado	.65
8	...	Slitting.....	.65	19	7/8	Plow and Dado	.70
9	1 1/4	Filletster....	.70	21	1/8	Beading..	.65
10	1 1/8	Plow and Dado	.60	22	3/16	Beading..	.65
11	3/16	Plow and Dado	.60	23	1/4	Beading..	.65
12	1/4	Plow and Dado	.60	24	5/16	Beading..	.65
13	5/16	Plow and Dado	.60	25	3/8	Beading..	.65
14	3/8	Plow and Dado	.65	26	7/16	Beading..	.65
15	1/2	Plow and Dado	.65	27	1/2	Beading..	.65
16	1/2	Plow and Dado	.65	...	...	...	...

Special Cutters

No.	Size Inches	Style of Tool	Each	No.	Size Inches	Style of Tool	Each
2	1 1/2	Sash.....	\$.95	213	1/8	Reeding 3 Beads	\$.70
28	5/8	Beading.....	.70	214	1/8	Reeding 4 Beads	.70
29	3/4	Beading.....	.70	215	1/8	Reeding 5 Beads	.70
31	3/16	Fluting.....	.70	222	3/16	Reeding 2 Beads	.70
32	1/4	Fluting.....	.70	223	3/16	Reeding 3 Beads	.70
33	5/16	Fluting.....	.70	224	3/16	Reeding 4 Beads	.70
34	3/8	Fluting.....	.70	225	3/16	Reeding 5 Beads	.70
35	1/2	Fluting.....	.70	232	1/4	Reeding 2 Beads	.70
36	1/2	Fluting.....	.70	233	1/4	Reeding 3 Beads	.70
37	5/8	Fluting.....	.70	234	1/4	Reeding 4 Beads	.70
38	3/4	Fluting.....	.70	235	1/4	Reeding 5 Beads	.70
212	1/8	Reeding 2 Beads..	.70	...	...	...	...

No. 71 Stanley Router Planes Open Throat



For surfacing bottom of grooves or other depressions parallel with surface of work.

Furnished with 1/4 and 1/2-inch routers, and a 3-piece V or smoothing cutter. Shank of cutters graduated in 16ths for 1 inch.

Equipped with attachment for closing the throat, for use on narrow surface. Maple knobs finished in black. Nickel plated.

Length, 7 1/2 inches. Packed 1 in box. Weight, 2 5/8 pounds. No. 71..... each \$7.25

No. 271 Stanley Router Planes



Useful on narrow work for pattern and cabinet makers. Either a closed throat for regular work or an open throat for bull nose work can be had.

Length, 3 inches; cutter, $\frac{1}{4}$ inch. Nickel-plated finish, casehardened thumb screw. Packed 1 in a box. Weight, $\frac{3}{8}$ pounds.
No. 271.....each \$1.80

No. 79 Stanley Side Rabbet Planes



Reversible nose can be worked into corners.

Full nickel-plated. Right and left hand. Length, $5\frac{1}{2}$ in.; width of cutters, $\frac{1}{2}$ in.

Packed 1 in a box.
Weight, 1 pound.
No. 79.....each \$5.00

No. 78 Stanley Duplex, Fillister and Rabbet Planes



Has two seats for cutter, one for regular and other for bull-nose work. Has a spur and a removable depth gage.

The adjustable fence can be used on either side and slides under the bottom.

To work as a rabbet plane, remove fence and arms.

Length, $8\frac{1}{2}$ inches. Cutter, $1\frac{1}{2}$ inches.

Packed 1 in a box. Weight, 3 pounds.

No. 78.....each \$6.00

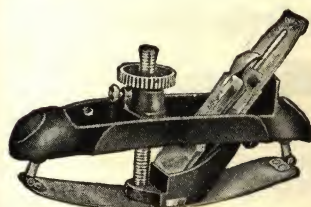
Stanley Handled Iron Rabbet Planes



This plane will lie flat on either side and can be used with right or left hand while planing into corners or up against perpendicular surfaces. Fitted with a spur and a detachable depth gage. Japanned, nickel trimmings.

Packed 1 in a box.

No.	190	191	192
Each.....	\$5.00	5.00	5.00
Length.....inches	8	8	8
Cutter.....inches	$1\frac{1}{2}$	$1\frac{1}{4}$	1
Weight.....pounds	$2\frac{1}{2}$	$2\frac{1}{4}$	2



No. 20 Stanley Adjustable Circular Planes

Face is fastened at each end to plane body and adjusted by a screw at center.

Packed 1 in a box.

Weight, 4 pounds.

No. 20, 10 Inches Long,
 $1\frac{3}{4}$ -In. Cutter...ea \$18.05

No. 1951 Stanley Fiber Board Bevelers



For cutting chamfers or bevels up to $\frac{3}{16}$ inch on hard or tempered fiber board. Hardwood handle, stained red. Body of tool japanned. Furnished with heavy steel cutter.

No. 1951, 1 in a Box, Wt., 2 Lb.....each \$5.20
Extra Blades.....each .25

No. 378 Stanley Weather Strip Rabbet Planes

For installing metal weather stripping; also can be used for all kinds of rabbet work within its limits.



Fitted with right and left hand depth gage and adjustable fence with stop collars.

Width of cutter, $1\frac{1}{16}$ inch; length, 8 inches.

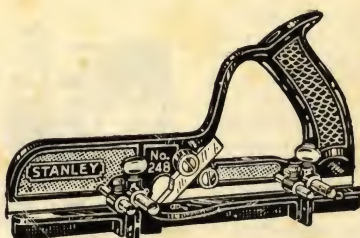
Japanned body and fence; nickel-plated trimmings.

Packed 1 in a box.

Weight each, $2\frac{5}{8}$ pounds.

No. 378.....each \$3.25
Cutters, 1-Inch Wide.....each .50

No. 248A Stanley Weatherstrip Plow Planes



Especially designed for weatherstrip, also adapted for all plow work.

Furnished with a full set of seven cutters of widths, $\frac{1}{8}$, $\frac{5}{32}$, $\frac{3}{16}$, $\frac{7}{32}$, $\frac{1}{4}$, $\frac{5}{16}$, and $\frac{3}{8}$ inch. Fitted with a depth gauge and adjustable fence.

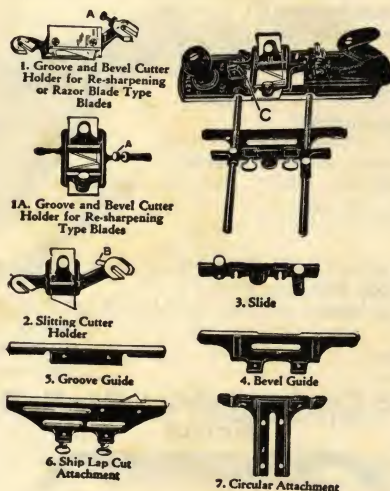
Body and fence japanned. Nickel plated trimmings.

Length, $9\frac{1}{2}$ inches. Weight each, $2\frac{1}{4}$ pounds.

Packed 1 in a box.

No. 248A.....each \$9.00

No. 193A Stanley Fiber Board Cutters



This tool can be used to slit, bevel, groove and mitre fiber board.

This complete tool is equipped with holders necessary to use razor blades, make ship lap cuts, and circular cuts.

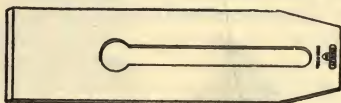
Consists of the plane bottom with arms and attachments Nos. 1A, 2, 3, 4 and 5; one each of the reshaping type cutters Nos. 1, 2, 3, 4, 5 and 6; one No. 1 groove and bevel cutter holder; one No. 6 ship lap attachment; one No. 7 circular attachment, and six razor blades.

Weight, 8 pounds.

No. 193A.....each \$29.95

Stanley Plane Irons

For Bed Rock and Stanley Iron Circular and Wood Planes



Single



Double

It will be noted that in many cases the same single iron fits a number of different planes, but the cap iron (which combined with the single iron makes the double iron), is not the same on the iron, circular and wood, planes and consequently is not interchangeable.

When ordering, give number of plane, size of iron, and state whether single or double iron is required.

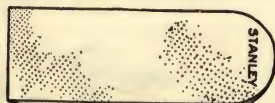
Packed 6 in a box.

Size Inches	For Plane No.	Single Each	Double Each	Iron Caps Each
1 1/4	1			
1 5/8	2, 602, 2C	\$.90	\$ 1.30	\$.45
1 3/4	{ 3, 3C, 20, 22, 5 1/4, 5 1/4 C, 113, 603, 603C, 605 1/4 }	1.00	1.40	.45
2	{ 4, 4C, 5, 5C, 9, 24, 26, 35, 604, 604C, 605, 605C, S4, A4, S5, A5 }	1.10	1.50	.55
2 1/8	10, 10 1/4, 10 1/2	1.30	1.70	.55
2 1/4	5 1/2 (Old style), 605 1/2, 605 1/2 C	1.30	1.70	.55
2 3/8	{ 4 1/2, 4 1/2 C, 6, 6C, 7, 7C, 11, 28, 31, 36, 604 1/2, 604 1/2 C, 5 1/2, 5 1/2 C, 605 1/2, 605 1/2 C, 606, 606C, 607, 607C, A6, 51 }	1.40	1.90	.60
2 5/8	8, 8C, 32, 608, 608C	1.40	1.90	.60

For Block Planes



Adjustable

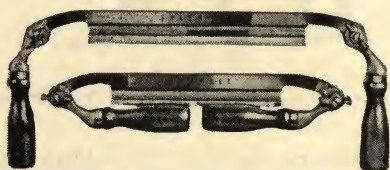


Non-Adjustable

Packed 6 in a box.

Size Inches	For Plane No.	Each
1	100, 101	\$.25
1 3/4	60, 60 1/2, 61, 203	.50
1 3/8	102	.36
1 3/4	103	.45
1 5/8	{ 9 1/2, 15, 16, 17, 18, 19, S18, A18, 63, 65, 65 1/2, 120, 131, 220, 118 }	.50
1 5/4	110, 130, 1120	.45
1 5/8	140	.70
2	62, 164	1.10

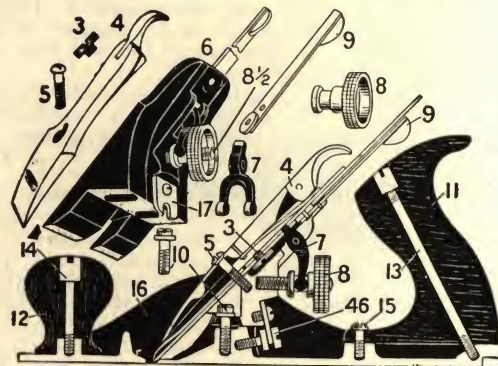
No. 635 Greenlee Folding Handle Draw Knives



Razor blade knife. Joint made by tapered lugs on shank fitting in tapered slots on blade extension, insures rigidity and easy adjustment. Joint is locked with wing nut so that neither wrench nor screwdriver is needed to lock or release. When open, handles are held firmly in place and knife has hang of a fixed handle draw knife. Wooden handle reinforced with steel ring. Packed in a box.

Length.....inches	8	10
Per Dozen.....	\$56.00	61.00

Parts for Stanley Iron Planes



Add 10 per cent for corrugated bottoms; add 10 per cent for bottoms and frogs for planes Nos. S4 and S5. When Ordering, specify No. and name of part and No. of plane.

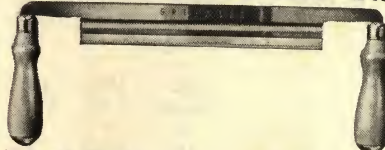
Plane No.	Sgl. Plane Each	Dbl. Plane Each	Cap Each	*No. 4 Lever Each	*No. 6 Frog Comp. Each	*No. 8 Nut Each	No. 15 Hdle. Toe Screw Each	Size In.
1	\$.80	\$1.20	\$.40	\$.75	\$1.10	\$.20		1 1/4
2, 2C	.90	1.30	.40	.75	1.10	.20		1 1/4
3, 3C, 5 1/4, 5 1/4 C	.90	1.30	.40	.85	1.10	.30	\$1.10	1 3/4
4, 4C, S4, 5, 5C, S5	1.00	1.40	.40	.90	1.10	.30	.10	2
4 1/2, 4 1/2 C, 5 1/2, 5 1/2 C								
6, 6C, A6, 7, 7C	1.30	1.75	.45	1.00	1.20	.30	.10	2 1/2
8, 8C	1.30	1.80	.50	1.00	1.30	.30	.10	2 1/2
Part No.	Name of Part	Each	Part No.	Name of Part	Each			
3	Cap-Screw.....	\$.10	13x	Alum. Plane Hdles.	\$1.50			
5	Lever Screw.....	.10	5x	Alum. Plane Hdles.	1.50			
7	Y Adjusting Lever.	.10	12	Plane Knob:				
8 1/2	Adj. Nut Screw....	.10		*Hardwood.....	.40			
9	Lateral Adj. Lever.	.20		Rosewood.....	.60			
10	Frog Screw.....	.10	13	Hdle. Bolt & Nut..	.20			
11	Plane Handle:		14	Knob Bolt & Nut..	.20			
	*Hardwood.....	.60	17	Frog Clip & Screw.	.20			
	Rosewood.....	1.00	46	Frog Adj. Screw...	.10			

No. 16, Plane Bottom

No. PLANE	1, 2C	3, 3C	4, 4C	4 1/2, 4 1/2 C	5, 5C	5 1/4, 5 1/4 C	5 1/2, 5 1/2 C	A6	6, 6C	7, 7C	8, 8C
Each.....	\$2.85	3.20	3.20	3.80	3.80	3.80	3.80	5.30	7.50	9.00	

*No longer available from factory. †Specify new or old style frog. ‡No. 3x fits planes No. 3, 4, 5 1/4. §No. 5x fits planes No. 4 1/2, 5, 5 1/2, 6, 7 and 8. ¶Not available for Plane Nos. 3, 3C, 4, and 4C.

No. 600 Greenlee Razor Blade Drawknives



Blade is made from solid steel. Width, 1 3/8 inches. Hardwood handle.

Packed 4 in a box.

Length Blade.....inches	8	9	10	12
No. 600.....per dozen	\$27.00	28.80	31.20	36.00

No. 64 Stanley Spoke Shaves



Used to plane convex and concave edges. For fine work. Light. Steel cutters tempered.

and sharpened. With cutter cap. Straight handle. Black japanned finish. Length 9 inches. Cutter 1 1/4 inches.

Packed 6 in box. Weight 2 3/4 pounds per 1/2 dozen.

No. 64.....each \$.90

No. 151 Stanley Spoke Shaves Adjustable Cutter—Raised Handle

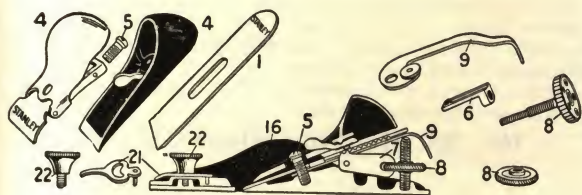


Adjustable end-wise and side-wise. High-grade steel cutter. Japanned.

Packed 6 in a box; weight per box, 4 1/4 pounds.

No. 151, 10 In. Long, 2 1/8-In. Cutter.....	each \$1.50
Extra Blades.....	each .30

Parts for Stanley Block Planes



No.	Name of Part	EACH PLANE NUMBER					
		9 1/2	15	16 S18, 18 A18, 19	60	60 1/2	
4	Lever Cap.....	\$.25	\$.25	\$.35	\$.65	\$.35	\$.25
5	Lever Cap Screw.....	.10	.10	.10	.10	.10	.10
6	Frog Complete.....					.20	.20
7	Adjusting Lever.....	.10	.10	.10	.10		
8	Adjusting Nut.....	.20	.20	.20	.20	.20	.20
9	Lateral Adjust. Lever.....	.20	.20	.20	.20		
11	Plane Handle.....						
16	Plane Bottom.....	1.40	1.50	1.50	1.50	1.20	1.20
21	Eccentric Plate.....	.20	.20	.20	.20	.20	.20
22	Finger Rest Knob.....	.20	.20	.20	.20	.20	.20

No.	Name of Part	EACH PLANE NUMBER				
		62	61, 63	65	65 1/2	164
4	Lever Cap.....	\$.35	\$.35	\$.65	\$.25	\$.35
5	Lever Cap Screw.....	.10	.10	.10	.10	.10
6	Frog Complete.....	.20	.20	.20	.20	.20
8	Adjusting Nut.....	.20	.20	.20	.20	.20
11	Plane Handle.....	.60				.40
16	Plane Bottom.....	3.50	3.50	1.50	1.50	3.00
21	Eccentric Plate.....	.20		.20	.20	.20
22	Finger Rest Knob.....	.30	.30	.20	.20	.30

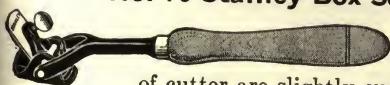
No. 80 Stanley Double Handle Cabinet Scrapers



Body and handles cast in one piece. Iron bottom. Japanned finish.

Length, 11 1/2 inches. Packed 1 in a box. Weight, 1 3/4 lb.
No. 80, with 2 3/4-Inch Blade.....each \$2.60
Extra Blades.....each .50

No. 70 Stanley Box Scrapers



Handle is hinged above surface. Face of bottom and edge of cutter are slightly curved away from center.

ter, allowing user to scrape clean uneven surface. Light grey handle, dark grey body. Packed 6 in box. Weight 1 lb. each.
No. 70, 13 Inches Long, 2-Inch Blade.....each \$2.60
Extra Blades.....each .40

No. 0 Stanley Hand Scrapers



Made from high grade 20-gage steel .035 inch thick and carefully heat treated to give the correct temper.

Highly polished.

Packed 6 in a box.

Width.....inches	2 1/2	3	3
No. 0.....each	\$.90	1.00	1.10
Length.....inches	5	5	6
Weight per Box.....pounds	1 1/4	2	2 1/4

No. 25 Hook Scrapers With No. 25 Renewable Cutters



Designed for odd jobs of scraping. Useful tool for painters and woodworkers, also around the house. For refinishing worn spots on floors, brush marks, runs and sags on finished surfaces, for removing raised grain on wood surfaces.

Packed 1 dozen in a two-color box.

Shipping weight per dozen, 3 pounds, 8 ounces.

Cutters made of high carbon steel, 2 1/2 inches long are packed 12 each on cards; weight per card, one ounce.

No. 25, Complete.....each \$.50
No. 25, Cutters Only.....each .15

No. 3425 Hook Scrapers With Removable Cutters



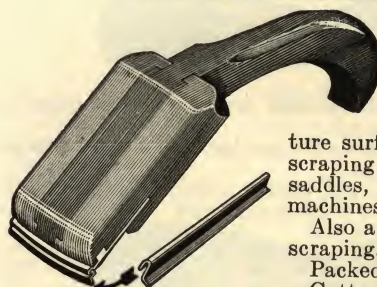
Especially adapted for scraping floors, boats, boxes, etc. Has a comfortable pistol grip handle and knob. It is double-end reversible with 2 1/2 and 3 1/4-inch cutters. The 2 1/2-inch cutter has a decided curve and is designed for rough and fast scraping. The 3 1/4-inch end is slightly curved and is designed for finishing.

Packed individually in box. Weight, 1 pound.

Cutters only packed 12 on a card. Shipping weight, 1 ounce each.

No. 3425, Scraper Complete.....each \$2.00
No. 25, Cutter, 2 1/2 Inches Long.....each .15
No. 34, Cutter, 3 1/4 Inches Long.....each .18

No. 75 Hook Scrapers With No. 25 Renewable Cutters



A sturdy scraper with a pistol grip handle.

Designed for work on floors, boats, large furniture surfaces, desks, etc. For scraping borders, closets, door saddles, when using sanding machines.

Also a practical tool for box scraping.

Packed individually in a box.

Cutters made of high carbon steel, 2 1/2 inches long are packed 12 each on cards; weight per card, one ounce.

No. 75, Complete.....each \$1.00
No. 25, Cutters Only.....each .15

No. 250 Fletcher Wood Scrapers



Consists of a hardwood handle to which double-edge quick change blades are securely held by means of a vise clamp. Tension is supplied by a thumb nut at the end of the handle.

The blade can be shifted to extend beyond edge of handle and can be tilted, making it possible to scrape right up to the base board and other hard-to-get-at places.

Blade will not chatter under pressure.

Packed 1/2 dozen in a display carton. Weight per dozen, 6 1/2 pounds.

No. 250, Scraper.....each \$.80
Extra Blades.....per pair .25

Stanley Tang Chisels

Blade and tang forged from one-piece steel, carefully heat treated and machine crossground to perfectly proportioned bevel. Polished, mirror finish. Two long forged ears on the tang lock handle against turning.

Handle made of "Stanloid", a tough non-metallic substance of exceptional durability. Upper portion of handle is transparent amber; lower portion is opaque black.

Packed 1 in a box.

No. 60, Butt Chisels



Thin blade, 3 inches long. For pattern maker, cabinet maker, interior trim carpenters and others. Handle and bolster blend together. Black steel cap on end of handle centers hammer blows and distributes force evenly to cutting edge.

No. 61, Paring Chisels



Thin blade, 2½ inches long. For carving, paring and similar work.

No. 61				No. 60			
Width Blade Inches	Each	Overall Length Inches	Wt. Lb. per ½ Doz.	Each	Overall Length Inches	Wt. Lb. per ½ Doz.	
1/4	\$1.90	7 3/8	1 1/8	\$2.20	7 7/8	1 3/8	
3/8	2.00	7 1/2	1 1/4	2.20	7 7/8	1 1/2	
1/2	2.10	7 5/8	1 3/8	2.30	7 7/8	1 3/4	
5/8	2.20	7 3/4	1 1/2	2.40	8 1/4	1 7/8	
3/4	2.20	7 3/4	1 5/8	2.40	8 1/4	2	
1	2.40	8	1 7/8	2.70	8 3/8	2 1/4	
1 1/4	2.90	8 1/4	2 1/2	3.00	8 1/2	3	
1 1/2	3.30	8 3/8	2 3/4	3.40	9	3 5/8	
2	3.90	8 9/16	3 1/4	4.00	9 1/4	4 1/2	

No. 1032 Shark-O-Lite Tanged Butt Chisels With Shark-O-Lite Handle



Forged from Swedish charcoal tool steel. Scientifically heat-treated and tempered.

Bevelled blade, durable cutting edge. Length of blade is 2½ inches; width varies.

Fitted with transparent, amber colored, unbreakable Shark-O-Lite handle.

Packed half dozen to a box.

Blade Width Inches	Per Doz.	Wt. Lb. Doz.	Blade Width Inches	Per Doz.	Wt. Lb. Doz.	Blade Width Inches	Per Doz.	Wt. Lb. Doz.
1/8	\$27.70	2 1/2	5/8	\$27.50	3	1 1/4	\$36.00	5 1/2
1/4	25.80	2 1/2	3/4	27.70	3 1/4	1 1/2	41.00	6
3/8	26.60	2 3/4	7/8	28.40	3 1/2	1 3/4	47.70	8
1/2	27.30	2 3/4	1	31.20	3 3/4	2	54.00	10

No. 200 Greenlee Socket Butt Chisels



Has bevel edges and a leather tipped handle. Blade measures 2¾ in. from cutting edge to shoulder. Full polished. Extra for bevel edge.

No. 220 Greenlee Short Socket Firmer Chisels Bevel Edge—Leather Tipped Handle



Size, In.	Per Doz.
1/4	\$16.80
3/8	16.80
1/2	16.80

Size, In.	Per Doz.
5/8	\$18.60
3/4	19.20
1	22.20

Size, In.	Per Doz.
1 1/4	\$24.60
1 1/2	26.40
2	30.00

No. 577 Hargrave All Steel Wood Chisels



For all classes of work. Packed 6 in a box.

Cutting Edge.....inches	1/2	3/4	1	1 1/4
No. 577.....per dozen	\$15.10	16.68	17.72	18.76
Diameter Steel.....inches	1/2	5/8	5/8	3/4
Length.....inches	10	12	12	12
Weight per Dozen....pounds	5 1/4	10	10 3/4	15

No. 950 Hargrave Floor Chisels



This chisel has thin blade, enabling the carpenter, plumber or electrician to cut the tongue off and lift the floor boards without marring the surface.

Packed ½ dozen in a box.

Width Blade,.....inches	2 1/2	3
No. 950.....per dozen	\$27.10	31.26
Length.....inches	11	12
Stock.....inches	5/8	5/8
Weight, Lbs.....per dozen	12	15

No. 330 Greenlee Socket Firmer Gouges



Has outside bevel and leather tipped handle. Steel

blade is 6¼ inches long from cutting edge to shoulder.

Packed 6 in a box.

Size.....inches	1/4	3/8	1/2	3/4
No. 330....per dozen	\$23.00	23.00	24.25	27.00
Size.....inches	1	1 1/2	2	.....
No. 330....per dozen	\$30.75	38.00	46.75	.....

No. 335 Greenlee Socket Firmer Gouges Inside Bevel—All Wood Handle



Made of high carbon tool steel. This gouge has inside bevel and is fitted with a handle of selected hardwood. The socket and the concave and convex surfaces are fully polished.

The blade measures 6¼ inches from cutting edge to shoulder and has an overall dimension of 13 inches on the smaller sizes to 14½ inches on the larger sizes.

Packed 6 in a box.

Size Inches	Per Dozen	Approx. Wt. Lb.	Size Inches	Per Dozen	Approx. Wt. Lb.
1/4	\$9.50	4	1	\$12.75	9
3/8	9.50	4 1/4	1 1/2	16.00	12
1/2	10.00	4 1/2	2	20.00	15
3/4	11.25	6 1/2	.....	.....	.....

No. 476 Greenlee Turning Chisels



Polished hardwood handle 9 inches long. Blade is 8 inches long on 1-inch and wider sizes; shorter on sizes smaller than 1-inch. List below covers regular skew point chisels with handles. Packed 6 in a box.

Size.....in.	1/4	3/8	1/2	3/4	1	1 1/2	2
Per Dozen....	\$17.50	17.50	17.50	19.50	23.50	32.00	42.50
Wt.....lb.	6	6 3/8	7 3/8	9	11 1/2	15	18

On special order, roundpoint, spearpoint, squarepoint, right skew or left skew, can be furnished.

If desired without handles, deduct \$3.60 per dozen.

No. 576 Greenlee Turning Gouges



Made of high carbon tool steel. Handle is hardwood, 8 inches long and fitted with heavy ferrule. Blade 8 inches long on gouges 1 inch or larger. On smaller sizes the blade length is slightly reduced, varying according to size. The length for the smaller sizes is about 7 inches. Service required of a turning gouge is often severe and to provide proper strength the blade is made with a substantial cross section. Tempered with extreme care and highly polished.

Packed 6 in a box.

Size Inches	Per Dozen	Wt. Lb.	Size Inches	Per Dozen	Wt. Lb.
1/4	\$24.50	5 3/4	1	\$34.25	11 1/4
3/8	24.50	6 1/2	1 1/4	41.50	13 1/2
1/2	24.75	7	1 1/2	51.00	15 1/2
3/4	28.75	8 3/4	...	...	...

If desired without handles deduct \$2.75 per dozen. For weight, deduct 4 pounds per dozen.

No. 596 Greenlee Parting Tools



Blade 7 inches long; thin edges, with heavy section down center. Polished hardwood handle, 9 inches long; brass plated cast ferrule. Packed 6 in box. Without handles, deduct \$3.60 per dozen.

Size Inches	Per Dozen	Wt. Lb.
No. 596.....	\$17.50	19.50
Thickness at Point.....	5/32	3/16
Weight per Dozen.....	0	7 1/2

Greenlee Short Turning Tools

Designed primarily for wood lathe use in home workshop. Made of tough alloy steel, completely hardened, with heat resisting qualities.

The 1/2-inch sizes and smaller are made with 4-inch blade, larger sizes have a 5-inch blade. The overall length varies from 13 to 14 inches. Fitted with a polished maple handle, 8 inches long, and the tenon is reinforced with nickel plated steel ferrule.

Packed 6 in a box.

No. 476-S Short Turning Chisels



Size... inches	Regular	Skew	Round	Spears	Point	Nose
	*1/4	*1/2	1/2	1/4	1/2	*1/2
No. 476-S.....						
per dozen...	\$12.50	12.50	16.00	18.50	12.50	12.50
Weight pounds	4 1/4	5	6 1/2	7 1/2	4 1/4	5

No. 576-S Short Turning Gouges



Size..... inches	*1/4	*1/2	3/4	1
No. 576-S.....				
per dozen.....	\$15.00	15.00	18.50	21.00
Weight per dozen.....	4 1/4	5	6 3/4	8

No. 596-S Short Parting Tools



Size..... inches	*1/2
No. 596-S.....	
per dozen.....	\$13.50
Weight per dozen.....	pounds

Sets

*Set of 6 in Display Box; Wt., 2 1/2 Lb.....	per box	\$6.80
†Set of 8 in Display Box; Wt., 3 3/4 Lb.....	per box	9.70
Set of 11, All Sizes Except 1-Inch Turning Gouge, In Common Box; Wt., 5 1/4 Lb.....	per box	13.05
Set of 12, All Sizes, in Common Box; Wt., 6 Lb.....	per box	15.00

MECHANICS TOOLS

We invite you to our Store to examine our complete assortment of Tools of all kinds.

No. 106 Millers Falls Carving Tool Sets



A set of 6 tools selected to give a wide range of operation and effects in wood and linoleum.

The blades are forged from high quality steel, carefully heat-treated, polished and edged.

The handles, protected with nicked ferrules, are hardwood, with a fine mahogany lacquer finish.

Tools consist of one 5/16-inch straight chisel; one 3/8-inch bent chisel; one 1/4-inch skew bevel chisel; one 3/8-inch bent gouge; one 3/32-inch U

tool; and one 3/32-inch veining tool.

Length of tools, 6 1/4 inches; weight, 3/4 pound.

Packed in a heavy cardboard box.

No. 106..... per set \$4.60

Greenlee Chisel Handles

Made from selected hardwood carefully turned to special pattern. Caps on all handles so fitted are made of three layers of well-tanned leather. Wood and leather are turned to finished size at one time and both are thoroughly polished.

All wood handles for framing chisels are fitted with polished steel rings. All handles for tang tools have brass ferrules. Handles, with exception of extra long for turning tools, are packed 12 in a box. Assorted dozens are made of various sizes in proportion to those used in painting sets.

For Socket Firmer Chisels



Size Inches	All Wood Per Doz.	Leather Tipped Per Doz.	Description	Weight Pounds
1/8 to 1/2	Small	1
5/8 to 7/8	Medium	1 1/4
1 to 1 1/2	Large	1 1/2

For Socket Butt Chisels



Size	Description	Weight
1/8 to 7/8	Small	1
1 to 2	Large	1 1/2

For Socket Framing Chisels



Size	Description	Weight
1/4 to 1/2	Small	1 1/2
5/8 to 7/8	Medium	1 3/4
1 to 1 1/2	Large	2 1/4
1 3/4 and 2	Extra Large	2 3/4

For Turning Tools



Size	Description	Weight
1/8 to 7/8	Small	4
1 to 2	Large	4 1/2

For Slicks

All Wood, Weight 11 Pounds..... per dozen

No. 100 Russell Jennings' Extension Lip Auger Bits



Made from special analysis tool steel, carefully hardened and tempered. Has proper clearance.
Packed 12 in a box, $\frac{3}{16}$ to $\frac{1}{16}$ inch; 6 in a box above, $\frac{1}{16}$ inch.

Size in 16ths	Each	Wt. Lb. per Doz.	Size in 16ths	Each	Wt. Lb. per Doz.	Size in 16ths	Each	Wt. Lb. per Doz.
3	\$1.20	$\frac{3}{4}$	11	\$1.80	3	20	\$3.00	$6\frac{1}{2}$
4	1.20	1	12	1.90	$3\frac{1}{2}$	22	3.40	7
5	1.20	$1\frac{1}{4}$	13	1.95	4	24	3.70	$7\frac{1}{2}$
6	1.30	$1\frac{1}{2}$	14	2.10	$4\frac{1}{4}$	28	4.90	10
7	1.40	$1\frac{3}{4}$	15	2.20	$4\frac{1}{2}$	30	5.60	11
8	1.50	2	16	2.30	5	32	6.30	12
9	1.60	$2\frac{1}{4}$	17	2.40	$5\frac{1}{4}$	..	....	....
10	1.70	$2\frac{1}{2}$	18	2.70	$5\frac{1}{2}$	..	....	....

Russell Jennings Extension Lip Spur Auger Bit Sets



Bits are made of high carbon, scientifically tempered steel.

Regularly furnished with standard double thread. Quick-boring thread will be furnished at the same price if specified when ordering.

32 $\frac{1}{2}$ Quarters

Set consists of 13 bits—one each, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 and 16 sixteenths.
Set in Wooden Box, Ship. Weight, $4\frac{1}{16}$ Lb.....each **\$26.25**
Set in Canvas Roll, Ship. Weight, $3\frac{3}{16}$ Lb.....each **23.75**

20 $\frac{1}{2}$ Quarters

Set consist of 9 bits—one each, 4, 5, 6, 7, 8, 10, 12, 14 and 16 sixteenths (a range of sizes from $\frac{1}{4}$ to 1-inch by 8ths with $\frac{3}{16}$ and $\frac{7}{16}$ -inch added).
Set in Canvas Roll, Ship. Weight, $2\frac{1}{16}$ Lb.....each **\$16.00**

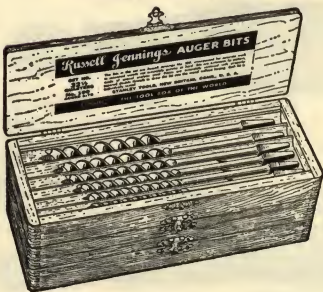
18 Quarters

Set consists of 9 bits—one each, 4, 5, 6, 7, 8, 9, 10, 11 and 12 sixteenths (a range of sizes from $\frac{1}{4}$ to $\frac{3}{4}$ -inch by 16ths).
Set in Canvas Roll, Ship. Weight, $1\frac{15}{16}$ Lb.....each **\$14.80**

17 $\frac{1}{2}$ Quarters

Set consists of 7 bits—one each, 4, 6, 8, 10, 12, 14 and 16 sixteenths (a range of sizes from $\frac{1}{4}$ to 1-inch by 8ths).
Set in Canvas Roll, Ship. Weight, 2 Lb.....each **\$13.10**

Russell Jennings Spur Auger Bit Sets



Set of 32 $\frac{1}{2}$ quarters.

Consists of 13 bits: sizes in sixteenths inches, 4 to 16 inclusive.

Set packed in 3-section wood chests unless otherwise specified.

Plastic roll especially designed for set will be furnished in place of box, if desired.

	In Wood Chests		In Plastic Rolls	
No.....	BX-D32 $\frac{1}{2}$	BX-S32 $\frac{1}{2}$	R-D32 $\frac{1}{2}$	R-S32 $\frac{1}{2}$
Each.....	\$26.25	26.25	23.75	23.75
For Style Bit No.....	100	101	100	101
Weight.....lb.	5	5	$3\frac{1}{2}$	$3\frac{1}{2}$

No. 22 Greenlee Solid Center Auger Bits



A single spiral bit for general woodworking requirements. Has a double-cutter head with extension lips. Fitted with medium-pitch screw point. Center stem gives added stiffness. Twist and round are highly polished, square is forge black.

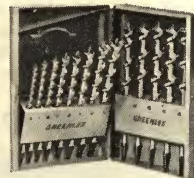
Sizes $1\frac{1}{8}$ -inch and smaller packed $\frac{1}{2}$ dozen in a box; larger sizes, $\frac{1}{4}$ dozen.

Size in 16ths	Each	Wt. Lb. per Doz.	Size in 16ths	Each	Wt. Lb. per Doz.
4	\$10.00	$3\frac{3}{8}$	13	\$16.00	$4\frac{3}{8}$
5	10.00	$3\frac{1}{2}$	14	16.00	$4\frac{1}{2}$
6	10.00	$3\frac{5}{8}$	15	18.00	$4\frac{5}{8}$
7	11.00	$3\frac{3}{4}$	16	18.00	$4\frac{3}{4}$
8	11.00	$3\frac{7}{8}$	17	21.00	$4\frac{7}{8}$
9	12.00	$3\frac{7}{8}$	18	21.00	$4\frac{7}{8}$
10	12.00	4	20	24.00	$4\frac{7}{8}$
11	14.00	$4\frac{1}{8}$	22	27.00	5
12	14.00	$4\frac{1}{4}$	24	30.00	5

*Cutting edge to end of shank, screw point not included.

No. Z22H Greenlee Solid Center Auger Bit Sets

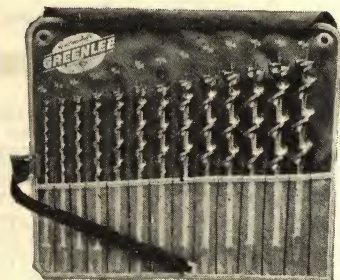
In Handy Box



The handy box with a separate compartment for each auger bit. Box is made of metal.

Quarters, 32 $\frac{1}{2}$. Contains 13 bits; sizes in inches by 16ths: 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 and 16.
No. Z22H.....per set **\$14.35**

Greenlee Solid Center Auger Bit Sets



Bits have double-cutter heads with extension lips and are fitted with medium-pitch screw points. Fully polished. Ideal for general woodworking requirements.

Plastic roll is flannel lined. Order separately.

Qty. Bits	Size in 16ths	Weight Pounds	Per Set	Plastic Roll Wt., Lb. Each
6	4, 5, 6, 8, 10, 12	1	\$5.60	$\frac{1}{4}$ \$1.20
6	4, 6, 8, 10, 12, 16	$1\frac{1}{4}$	6.25	$\frac{1}{4}$ 1.20
8	4, 5, 6, 8, 10, 12, 14, 16	$1\frac{3}{4}$	8.45	$\frac{1}{4}$ 1.30
9	4, 5, 6, 7, 8, 10, 12, 14, 16	$1\frac{3}{4}$	9.35	$\frac{1}{4}$ 1.30
13	From 4 to 16, incl.	$2\frac{3}{4}$	14.35	$\frac{3}{8}$ 1.50

No. 64 Greenlee Ship Auger Car Bits



Made with 12-inch twist and measures about 17 to 18 inches overall. **No. 64:** Regular finish, fully polished twist, round and screw. Available up to and including $2\frac{1}{16}$ -inch size. **No. 64-J:** Japanned hollows. Available in all sizes listed. Packed 6 in a box. Longer twists made to order and sold from Extra Length Ship Auger list.

Size in 16ths In.	Per Doz.	Wt. Lb. per Doz.	Size in 16ths In.	Per Doz.	Wt. Lb. per Doz.	Size in 16ths In.	Per Doz.	Wt. Lb. per Doz.
*4	\$22.00	2	10	\$22.00	6 $\frac{1}{2}$	16	\$29.00	16 $\frac{1}{2}$
*5	22.00	2 $\frac{1}{2}$	11	24.00	6 $\frac{3}{4}$	17	32.00	17 $\frac{1}{2}$
6	22.00	3 $\frac{1}{2}$	12	24.00	9 $\frac{1}{4}$	18	32.00	19 $\frac{1}{2}$
7	22.00	3 $\frac{3}{4}$	13	26.00	10 $\frac{1}{2}$	20	36.00	21 $\frac{1}{2}$
8	22.00	4 $\frac{1}{2}$	14	26.00	12 $\frac{3}{4}$	24	46.00	31
9	22.00	6	15	29.00	14 $\frac{1}{2}$	..	.....	...

*No. 64 only.

No. 88 Greenlee Nut Augers



Double-twist pattern. Flat-cut head. Fitted with a medium coarse screw point. Threaded end fitted with semi-finished hexagon nut. Fully polished twist on $1\frac{1}{2}$ -inch and smaller sizes; hollows japanned on larger sizes.

Sizes $1\frac{1}{4}$ and $1\frac{1}{2}$ inches packed $\frac{1}{2}$ -dozen in box. Sizes $1\frac{3}{4}$ and 2 inches packed $\frac{1}{4}$ dozen in box; larger sizes packed $\frac{1}{2}$ dozen in box.

Size.....	1 $\frac{1}{4}$	1 $\frac{1}{2}$	1 $\frac{3}{4}$	2	2 $\frac{1}{4}$	2 $\frac{1}{2}$	3
No. 88...per doz.	\$38.00	48.00	56.00	64.00	84.00	104.00	184.00
Length of twist.....in.	7	7 $\frac{1}{2}$	7 $\frac{1}{2}$	8	8 $\frac{1}{2}$	8 $\frac{1}{2}$	9
Overall length....in.	16	17	17	18	19	19	20
Weight per doz...lb.	10 $\frac{1}{2}$	15	21	23	33	37	53

No. 1440 Greenlee Pipe Bit Sets



For quick, clean boring of pipe size holes in wood. Designed for plumbers, steamfitters and electricians for boring holes in wood for pipe and conduit.

Bits have overall length of approximately 6 inches. All have $\frac{1}{2}$ -inch shanks for use in portable electric or pneumatic drills and in stationary boring machines.

Adapter provided for standard auger-bit brace. Adapters also furnished for using a piece of standard $\frac{3}{8}$ -inch pipe as extension for deeper boring and longer reach.

Bits are fast, easy-boring tools that provide smooth, accurate holes.

No. 1440, Complete, Weight 7 Pounds.....each \$39.00

Bits Only

Bit Diameter.....in.	$\frac{7}{8}$	$1\frac{1}{8}$	$1\frac{3}{8}$	$1\frac{3}{4}$	2	2 $\frac{1}{2}$
Each.....	\$2.65	3.25	4.10	5.70	6.50	12.50
Pipe Size.....in.	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2

Parts

No. 149-P-2 Coupling.....	each \$1.40
No. AV2374 Electric Drill Adapter.....	each 1.40
No. 149-P-1 Brace Adapter.....	each 1.60

No. 149 Greenlee Multi-Spur Machine Bits



Designed to meet need for an easy, smooth-boring bit.

Because of its construction, it is recommended for use in power feed multiple spindle boring machines or high speed single spindle borers. In addition, it is handy for boring and counterboring with either electric or air driven portable drills as used in car shops and other plants.

Made of high grade alloy steel.

Diameter shank $\frac{1}{2}$ inch; length overall from $5\frac{1}{2}$ to $5\frac{3}{4}$ inches. Cutting barrel, or head, is $\frac{1}{2}$ to $\frac{3}{4}$ inch in length.

Size Inches	Each	Weight Ounces	Size Inches	Each	Weight Ounces
$\frac{1}{2}$	\$2.70	3 $\frac{5}{8}$	1 $\frac{1}{16}$	\$7.10	6 $\frac{3}{4}$
$\frac{9}{16}$	2.70	3 $\frac{3}{4}$	$\frac{13}{16}$	7.10	7
$\frac{5}{8}$	2.70	4	1 $\frac{13}{16}$	7.60	7 $\frac{3}{8}$
1 $\frac{1}{16}$	3.00	4 $\frac{1}{4}$	1 $\frac{7}{8}$	7.60	7 $\frac{1}{2}$
$\frac{3}{4}$	3.00	4 $\frac{1}{4}$	1 $\frac{15}{16}$	8.10	7 $\frac{1}{2}$
1 $\frac{3}{16}$	3.20	4 $\frac{1}{2}$	2	8.10	7 $\frac{1}{2}$
$\frac{7}{8}$	3.20	4 $\frac{1}{2}$	2 $\frac{1}{8}$	10.00	8
1 $\frac{5}{16}$	3.80	5	2 $\frac{1}{4}$	12.00	11
1	3.80	5	2 $\frac{3}{8}$	14.00	12
1 $\frac{1}{16}$	4.00	5 $\frac{1}{2}$	2 $\frac{1}{2}$	16.00	12
1 $\frac{1}{8}$	4.00	5 $\frac{1}{2}$	2 $\frac{5}{8}$	18.00	13
1 $\frac{3}{16}$	4.30	5 $\frac{1}{2}$	2 $\frac{3}{4}$	20.00	14
1 $\frac{1}{4}$	4.80	5 $\frac{1}{2}$	2 $\frac{7}{8}$	22.00	14 $\frac{1}{2}$
1 $\frac{5}{16}$	4.80	5 $\frac{1}{2}$	3	24.00	15
1 $\frac{3}{8}$	5.10	5 $\frac{1}{2}$	*3 $\frac{1}{4}$	52.00	20
1 $\frac{7}{16}$	5.70	6	*3 $\frac{1}{2}$	56.00	22
1 $\frac{1}{2}$	6.40	6	*3 $\frac{3}{4}$	60.00	25
1 $\frac{9}{16}$	6.60	6 $\frac{1}{2}$	*4	64.00	28
1 $\frac{5}{8}$	6.60	6 $\frac{1}{2}$			

*Made to order.

Forstner Bits



Brace Bit



Machine Bit

For smooth, round or oval boring, scroll and twist work. Will bore any arc of a circle leaving a true polished surface. Can be guided in any direction without regard to grain of wood or knots. Guided by its circular rim instead of its center which makes it especially adaptable in hardwood.

Brace bits have square tapered shanks. Machine bits are furnished with round shanks $\frac{1}{2}$ inch in diameter, up to 2 $\frac{1}{8}$ inches. Machine bits larger than 2 $\frac{1}{8}$ inches have $\frac{3}{4}$ -inch round shanks.

Size Inches	Brace Bit Each	Machine Bit Each	Size Inches	Brace Bit Each	Machine Bit Each	Size Inches	Brace Bit Each	Machine Bit Each
$\frac{1}{4}$	\$1.30	\$1.55	1 $\frac{9}{16}$	\$2.45	\$2.70	1 $\frac{3}{4}$	\$5.00	\$5.00
$\frac{5}{16}$	1.30	1.55	1	2.45	2.70	1 $\frac{7}{8}$	5.35	5.35
$\frac{3}{8}$	1.40	1.65	1 $\frac{1}{16}$	2.55	2.80	2	5.65	5.65
$\frac{7}{16}$	1.40	1.65	1 $\frac{1}{8}$	2.55	2.80	2 $\frac{1}{8}$	...	8.10
$\frac{1}{2}$	1.50	1.80	1 $\frac{3}{16}$	2.75	3.00	2 $\frac{1}{4}$	...	9.90
$\frac{9}{16}$	1.60	1.90	1 $\frac{1}{4}$	3.10	3.40	2 $\frac{3}{8}$	...	11.70
$\frac{5}{8}$	1.60	1.90	1 $\frac{5}{16}$	3.10	3.40	2 $\frac{1}{2}$	...	13.50
1 $\frac{1}{16}$	1.75	2.00	1 $\frac{3}{8}$	3.30	3.55	2 $\frac{5}{8}$	...	15.30
$\frac{3}{4}$	1.85	2.10	1 $\frac{7}{16}$	3.70	4.00	2 $\frac{3}{4}$	...	17.10
1 $\frac{3}{16}$	2.00	2.25	1 $\frac{1}{2}$	4.25	4.55	2 $\frac{7}{8}$	...	18.90
$\frac{7}{8}$	2.00	2.25	1 $\frac{5}{8}$	4.65	4.65	3	...	20.70

Wright's Patent Expansive Bits



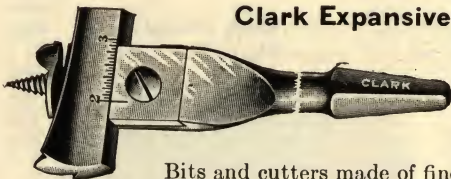
No.	Cutter Nos.	Bores Inches	Wt., Lbs. per Dozen	Price per Dozen
10	3 and 4	$\frac{7}{8}$ to 3	9	\$26.00
20	1 " 2	$\frac{5}{8}$ " $1\frac{3}{4}$	5	22.00

Extra Cutters				
Cutter No.	Bores Inches	Price per Dozen	Cutter No.	Bores Inches
1	$\frac{5}{8}$ to $1\frac{1}{8}$	\$3.00	4	$1\frac{3}{4}$ to 3
2	$1\frac{1}{8}$ " $1\frac{3}{4}$	3.75	5	3 " 4
3	$\frac{7}{8}$ " $1\frac{3}{4}$	5.25	6	4 " 5

Cap with Adjusting Screw

Price.....per dozen \$6.00

Clark Expansive Bits



Bits and cutters made of fine tool steel.

No.	Has Cutters Nos.	Bores Inches	Per Dozen
1	3 and 4	$\frac{7}{8}$ to 3	\$32.88
2	1 and 2	$\frac{1}{2}$ to $1\frac{1}{2}$	26.40

Extra Cutters				
Cutter No.	Bores Inches	Per Dozen	Cutter No.	Bores Inches
1	$\frac{1}{2}$ to $\frac{7}{8}$	\$4.56	5	3 to 4
2	$\frac{7}{8}$ to $1\frac{1}{2}$	5.76	6	4 to 5
3	$\frac{7}{8}$ to $1\frac{3}{4}$	7.92	7	5 to 6
4	$1\frac{3}{4}$ to 3	8.88		

No. 169 Greenlee Machine Center Bits



A center bit primarily intended for boring shallow holes of large diameter in light stock. Fitted with brad points unless otherwise specified. Brad points are preferable as this bit feeds into the wood very easily.

All sizes have 2-inch blade.

Sizes $\frac{3}{4}$ -inch to 4 inches standard with $\frac{1}{2} \times 2\frac{1}{4}$ -inch shank. Other sizes special.

*Special.

Size, In.	Each
$\frac{3}{4}$	\$2.20
$\frac{7}{8}$	2.70
1	3.20
$1\frac{1}{8}$	3.90
$1\frac{1}{4}$	3.90
$1\frac{3}{8}$	4.60
$1\frac{1}{2}$	4.60
$1\frac{3}{4}$	5.30
2	6.00
$2\frac{1}{4}$	6.70
$2\frac{1}{2}$	7.40
$2\frac{3}{4}$	8.10
3	8.80
$3\frac{1}{4}$	9.80
$3\frac{1}{2}$	11.00
4	12.80
* $4\frac{1}{2}$	15.40
*5	18.00

Greenlee Spur Machine Drills

Alloy Steel—Milled Flutes— $\frac{1}{2} \times 2$ -Inch Shank



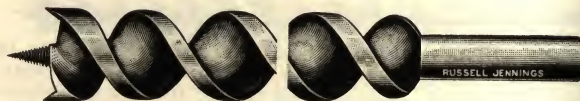
Used for cross-grain boring, as two outlying spurs sever wood fibers in advance of cutting edges. Has 4-inch twist.

Size 32nd In.	Each	Size 32nd In.	Each	Size 32nd In.	Each
6	\$2.40	13	\$2.40	24	\$4.30
7	2.40	14	2.40	26	4.80
8	2.40	15	2.50	28	5.30
9	2.40	16	2.60	30	5.90
10	2.40	18	3.00	32	6.50
11	2.40	20	3.40	..	..
12	2.40	22	3.80	..	..

No. 177-A

For dowel boring. Has $2\frac{1}{2}$ -inch twist.					
Size.....	inches	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	
Each.....		\$2.40	2.40	2.60	

No. 317 Russell Jennings Turned Shank Machine Bits



Shank accurately turned and centered, ready for use in either single or gang boring.

Length of twist, 6 inches, $2 \times \frac{1}{2}$ -inch turned shank; $\frac{3}{16}$ to $\frac{1}{16}$ inch by 32nds; $\frac{1}{16}$ to $\frac{3}{16}$ inch by 16ths.

Packed 6 in a box.

Size in 16ths	Each	Size in 16ths	Each	Size in 16ths	Each
4	\$2.70	10	\$3.00	16	\$4.20
5	2.70	11	3.10	18	5.00
6	2.80	12	3.30	20	5.50
7	2.80	13	3.50	24	6.30
8	2.90	14	3.60	..	..
9	2.90	15	3.90	..	..

No. 157 Greenlee Ship-Auger Machine Bits With Screw



The single twist or spiral with the single cutter makes a stiff, strong tool, yet provides ample chip clearance.

Particularly suited for boring to extreme depths and is well adapted for use in portable boring machines for all construction work.

Furnished with 12-inch twist, sizes $\frac{3}{8}$ to $1\frac{1}{16}$ -inch inclusive by sixteenths.

Also available with 18 and 24-inch twist lengths, sizes $\frac{9}{16}$ to $1\frac{1}{16}$ inch inclusive.

All standard sizes are made with polished twist and hollows and with $\frac{1}{2}$ -inch shank. Other sizes and lengths special.

Size In.	With 12-Inch Twist Each	For Each Extra 2-Inch Twist	Size In.	With 12-Inch Twist Each	For Each Extra 2-Inch Twist
$\frac{3}{8}$	\$3.84	..	$\frac{3}{4}$	\$4.16	\$.52
$\frac{7}{16}$	3.84	..	$\frac{13}{16}$	4.48	.56
$\frac{1}{2}$	3.84	..	$\frac{7}{8}$	4.80	.60
$\frac{9}{16}$	3.84	\$.48	$\frac{15}{16}$	5.12	.64
$\frac{5}{8}$	3.84	.48	1	5.44	.68
$\frac{11}{16}$	3.84	.48	$1\frac{1}{16}$	5.76	.72

No. 36 Millers Falls Bit Gauges



This gauge is clamped to the twist of bit and securely held by 2 thumb screws.

Two smooth shoes prevent marring the work. Steel set screws. Length 2 inches. Weight 3 oz. Packed 6 in a box.

No. 36, Nickel-Plated.....each \$75

No. 4 Millers Falls Auger Handles



The feature of this handle is its ratchet construction—operating both to right and left by means of small lever. This permits its working effectively in close corners.

Chuck holds practically all sizes of bit and auger shanks.

Hardwood handles.

Steel chuck shell and other metal parts nicked.

Packed 1 in a box.

Length.....inches	15
No. 4.....each	\$7.00
Weight.....pounds	$2\frac{3}{4}$

No. 120B Greenlee Regular Hollow Chisel Bits



Twist terminates at the center of openings in reinforced section of chisel.

Size In.	Each	Shank In.	Lgth. Twist In.	Lgth. Overall In.	Size In.	Each	Shank In.	Lgth. Twist In.	Lgth. Overall In.
1/4	\$2.40	3/16	3 1/4	9	5/8	\$3.00	*19/64	6	9
5/16	2.40	1/4	3 1/4	9	1 1/16	3.40	*19/64	6	9
3/8	2.40	19/64	6	9	3/4	3.60	*19/64	6	9
7/16	2.40	19/64	6	9	13/16	3.90	*19/64	6	9
1/2	2.40	19/64	6	9	7/8	4.40	*19/64	6	9
9/16	2.70	19/64	6	9	1	5.00	*19/64	6	9

*Also available with 1/2-inch shank; specify when ordering.

No. 101B Greenlee Regular Hollow Chisels



Special analysis crucible steel; 4-in. blade. In ordering, specify make and No. of machine for which tools are ordered.

Size In.	Each	Shank In.	Mortise Depth In.	Size In.	Each	Shank In.	Mortise Depth In.
*1/4	\$8.80	5/8x1 1/2	1 7/8	+1 1/2x5/8	\$12.00	5/8x1 1/2	3 1/4
*5/16	8.80	5/8x1 1/2	1 7/8	+1 1/2x3/4	12.80	5/8x1 1/2	3 1/4
*3/8x3/8	9.90	5/8x1 1/2	1 7/8	+9/16	11.30	5/8x1 1/2	3 1/4
+3/8	8.80	5/8x1 1/2	3 1/4	+5/8	12.10	5/8x1 1/2	3 1/4
+3/8x7/16	9.90	5/8x1 1/2	3 1/4	+1 1/16	13.00	5/8x1 1/2	3 1/4
+3/8x1/2	10.30	5/8x1 1/2	3 1/4	+3/4	13.80	1 1/8x1 1/2	3
+3/8x9/16	10.80	5/8x1 1/2	3 1/4	+13/16	14.70	1 1/8x1 1/2	3
+7/16	9.60	5/8x1 1/2	3 1/4	+7/8	15.60	1 1/8x1 1/2	3
+7/16x1/2	10.80	5/8x1 1/2	3 1/4	+1	17.40	1 3/8x1 1/2	3
+1/2	10.50	5/8x1 1/2	3 1/4				

*With reinforced blade. †With straight blade.

No. 2150 Yankee Bit Extensions



The chuck is so constructed that it will accommodate a large range of square shanks and hold them securely. Square shank is held firmly by the socket.

A Yankee feature prevents jamming of the bit in the socket. The taper end of the shank is accurately machined. Bits will not loosen and come out while in use.

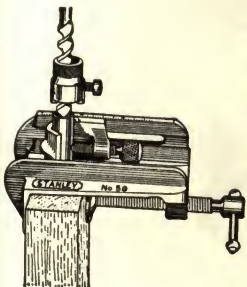
Plated throughout with high polish on sleeve.

Made to follow 1/16-inch bit or larger.

Individually packed in a box.

Size.....inches	15	18	21	24
No. 2150.....each	\$5.90	6.00	6.30	6.50
Net Weight.....pounds	1	1 1/8	1 1/4	1 1/2

No. 59 Stanley Doweling Jigs



Enables user to bore dowel holes in the edge, end or surface of work with ease. Will take any thickness up to 3 inches.

Can be used as bit guide for mortising. Made entirely of metal, nickel-plated. Depth gage is furnished which can be used with or without jig.

With 6 guides, 3/16, 1/4, 5/16, 3/8, 7/16, and 1/2 inch.

Packed 1 in a box.

Weight, 13 3/8 pounds.

No. 59.....each	\$5.00
Extra Guides.....each	.35

Wright's Countersinks

PATENTED



Designed especially for use in electric drills, where it is desired to use wood screws in any manner. The tool drills the hole for the screw and also countersinks for the under side of the screw head at the same time.

The outside sleeve is an adjustable gauge for depth of drilling and countersinking. The length of drill is adjustable, and held in place by a set screw.

The flute in the gauge is always in relation to the flute in the countersink, eliminating clogging of chips.

1/2-In., for No. 30 Drill, 1/4-In. Shank.....per doz. \$48.00
5/8-In., for No. 18 Drill, 5/16-In. Shank.....per doz. 60.00

Convalco Counterbores



Useful in boat building, cabinet making, or any work which requires use of bung over fastening.

Has extension lip, which is superior form of cutting edge for wood boring tools. Stop has chipway, which is always in perfect relation to flute of bit, thus allowing chips free exit, and preventing their accumulation under stop. Adjusting slot, which is on a 45° angle, permits accurate and easy setting of stop. Made only with round shank as its use is particularly adapted to small electric or breast drills.

Size.....inches	3/8	1/2	5/8	3/4
Per Dozen.....	\$36.00	48.00	60.00	72.00
No. Drill.....	36	30	25	18
Size Shank.....inches	1/4	1/4	3/8	1/2

No. 701 Greenlee Brace Countersinks



For soft metals or wood. Countersinks up to 5/8-inch; 4 1/2 inches overall. Clearance for cutting edge water ground for accuracy; sandblast finish on remainder.

No. 701, Std. Pkg., 12; Wt. 1 1/4 Lb.per dozen \$5.50

No. 396 Millers Falls Rose Countersinks



Hammer forged from tool steel. Polished. Length, 4 1/2 in. Available in 1/2, 5/8, or 3/4 inch diameter. Packed 6 in a box.

No. 396, Specify Diameter.....per dozen \$9.60

No. 410 Millers Falls Countersinks



For countersinking holes to admit heads of standard screws in mild steel, iron, soft metals, wood, similar materials.

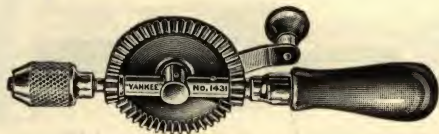
Turned from a high quality tool steel with milled flutes and ground edges. Fitted with 1/4-inch round shank for use in 3-jawed chucks of hand or power driven drills.

Diameter, 1/2 inch. Angle, 82°. Length, 1 5/8 inches.

Polished; packed 12 in a box. Weight, each, 1 ounce.

No. 410.....doz. \$5.00

No. 1431A Yankee Radio Drills



Single-speed plain hand drills, with 3-jaw chuck for round shank drills only. Plated steel frame and chuck.
Solid grip-handle of polished hardwood.
Two steel pinion gears support main driving gear.
Capacity of chuck, $\frac{9}{32}$ inch.
Length overall, $9\frac{3}{8}$ inches.
Weight each, $1\frac{1}{4}$ pounds.

No. 1431A.....each \$9.34

No. 1530A Yankee Single Speed Ratchet Hand Drills
Chuck Capacity, Round Shanks Up to $\frac{9}{32}$ Inch



Designed for use by mechanics in all fields and by the home craftsman. Compact and convenient.
Has five ratchet adjustments. With 3-jaw chuck. All bright metal parts are plated.
Packed 1 in a box.

No.....	1530A
Each.....	\$13.34
Overall Length.....inches	$10\frac{1}{2}$
Weight.....pounds	$1\frac{1}{4}$

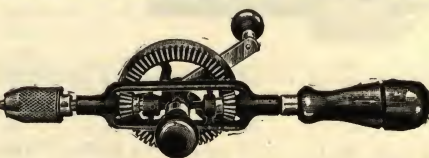
No. 2 Millers Falls Hand Drills



Capacity, 0 to $\frac{3}{8}$ -inch round shank drills. Three-jaw chuck; protected springs, single-speed; ball thrust bearing; cut gears; one steel drive pinion and one steel idler pinion to equalize large gear bearing.
Detachable side handle, tropical hardwood hollow-end main handle containing 8 wood boring points. Black enameled malleable iron frame; red enameled large gear; other parts nicked. Length, $14\frac{1}{2}$ inches.
Packed 1 in a box. Weight, $2\frac{1}{2}$ pounds.
No. 2, with Drill Points.....each \$7.00

No. 5 Millers Falls Hand Drills
Capacity, Up to $\frac{1}{4}$ Inch

For round shank drills. Single speed. Equipped with a wide rim on the large gear, easily grasped by thumb and fingers to start small drills and on delicate work. Gear red enameled with polished and nicked rim.
Steel drive pinion and equalizing idler pinion.
Three-jaw chuck with protected springs. Black enameled malleable iron frame. All exposed metal parts nickel plated.
Tropical hardwood end handle with screw cap. Eight drill points, $\frac{1}{16}$ to $\frac{1}{64}$ inch in diameter.
Packed 1 in a box. Weight, $1\frac{3}{8}$ pounds.
No. 5, Length, $12\frac{3}{8}$ Inches.....each \$6.70



No. 77A Millers Falls Hand Drills



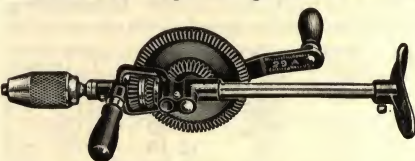
Idler Pinion

Capacity, 0 to $\frac{1}{4}$ -inch round shank drills.
Three-jaw chuck, protected springs; cut gears; steel pinion. Malleable iron frame, enameled black; large gear, enameled red; solid end handle and side handle of stained hardwood. Chuck is nicked. Two steel pinions, drive and idler.
Length, $12\frac{1}{2}$ inches.
Packed 1 in a box.
Weight each, 1 pound, 6 ounces.

No. 77A.....each \$3.30

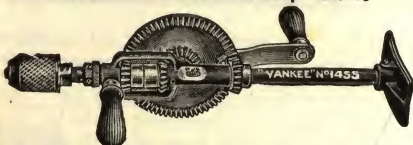
No. 120B Millers Falls Breast Drills
Capacity Up to $\frac{1}{2}$ Inch

Has 3-jaw chuck and improved protected springs. Furnished with two speeds—gear ratio even and 3 to 1; changed by pressing spring and shifting large gear.
Ball thrust bearing; cut gears; steel pinion; adjustable breast plate.



Rolled steel and cast iron frame.
Gear enameled red; frame, breast plate and crank, black.
No.....120B
Each.....\$7.50
Length.....inches $16\frac{1}{2}$
Number in Case.....12
Weight Each.....pounds $4\frac{5}{8}$

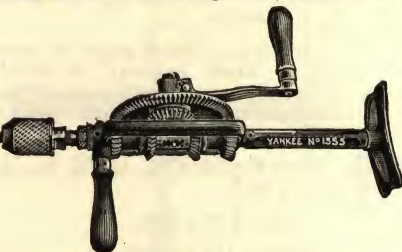
No. 1455 Yankee Plain Breast Drills
Capacity: $\frac{1}{2}$ -Inch Round Shank Drills
Screwdriver Bit in Side Grip Handle



Three-jaw chuck. Two speeds, changed by moving small shifter on main frame. Speed changed without removing drill from work. Steel spindle, adjustable ball bearings. Cut gears; steel pinions.
Black malleable iron frame; bright parts polished and plated. Side handle has screwdriver bit to adjust screws. Adjustable breast plate with polished face.
Length, $16\frac{1}{2}$ inches.
Packed 1 in a box. Weight, 6 pounds.
No. 1455.....each \$25.34

No. 1555 Yankee Ratchet Breast Drills
Capacity: $\frac{1}{2}$ -Inch Round Shank Drills

Three-jaw chuck. Two speeds, changed by tipping lever on gear hub. Steel spindle, adjustable ball bearings. Cut gears. Black malleable iron frame; bright parts plated and polished. Side handle is screwdriver.
Adjustable breast plate, polished.
Has right and left hand and continuous ratchet movement. Length overall, 17 inches.
Packed 1 in a box. Weight, $7\frac{3}{4}$ pounds.
No. 1555.....each \$33.34



No. 2100 Yankee Ratchet Bit Braces

Capacity, Up to 1/2-Inch Drill



Has ball-bearing chuck which firmly holds round, taper and square shank bits without loosening in use, yet releases easily. Dust proof,

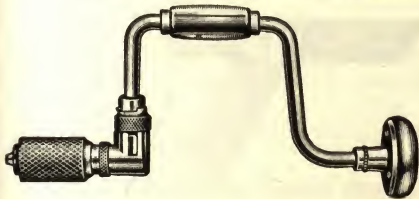
moisture-proof ratchet works so easily that most bits start without holding chuck. Quick, positive shifter.

Handle of hard rubber, practically unbreakable and will not warp, shrink or swell. Ball-bearing head.

Packed 2 in a box.

Sweep.....inches	8	10	12	14
No. 2100.....each	\$20.00	20.00	20.40	21.20
Net Weight.....pounds	3	3 1/8	3 1/4	3 3/4

No. 5010 Parsons De Luxe Braces



Head and handle made of glossy, transparent red Permaloid plastic. Handle and head equipped with oilite bronze bearings. All exposed metal parts have chromium plated finish.

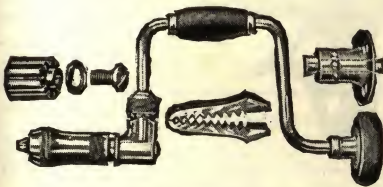
Ball bearing chuck with steel pins that hold square shanks, 1/8 to 1/2 inch round, and No. 1 Morse Taper shanks.

Box type ratchet is operated by ring shift.

Packed 1 in a box.

No.....	5010
Each.....	\$12.00
Sweep.....inches	10
Weight.....pounds	3 3/8

Millers Falls Ratchet Bit Braces



Holds bit shanks only. Barber chuck with forged steel alligator jaws. Boxed ratchet. Ball-bearing steel clad head, with steel quill. Handle has inserted metal

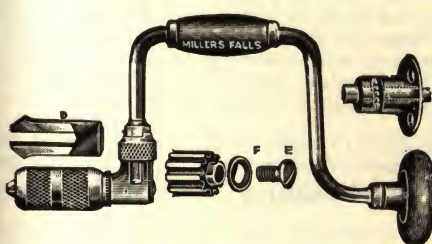
rings. Tropical hardwood head and handle. Exposed metal parts are nickel-plated and buffed.

This brace will fulfill every boring requirement where bit shanks only are used.

Packed 2 in a box.

No.....	31	32	33
Each.....	\$8.20	8.00	8.00
Sweep.....inches	12	10	8
Weight per Box.....pounds	6	5 3/4	5

Millers Falls Ratchet Bit Braces



Equipped with master chuck holding square, No. 1 Morse taper and plain round shanks from 1/8 to 1/2 inch diameter. Boxed ratchet mechanism with ring shift. Steel clad,

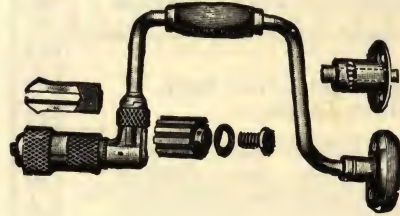
ball bearing head. Tropical hardwood head and handle. Handle has inserted metal rings. Exposed metal parts polished, nickel-plated and buffed. Packed 2 in a box.

No.....	730	731	732	733
Each.....	\$9.30	8.60	8.25	8.25
Sweep.....inches	14	12	10	8
Weight.....pounds	3 1/2	3 1/4	3 1/8	2 3/4

Millers Falls Ratchet Bit Braces

Has tropical hardwood head and handle.

Exposed metal parts nickel plated and buffed. Has Lion ball bearing chuck. Jaws have parallel milled grooves which grip along their entire length.



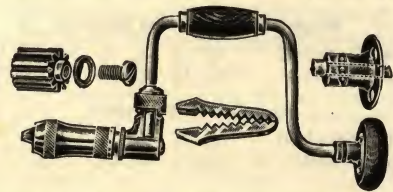
Holds bit shanks, round from 1/8 to 1/2 inch and No. 1 Morse taper shanks.

Boxed ratchet.

Packed 2 in a box.

No.....	770	771	772
Each.....	\$10.40	9.80	9.50
Sweep.....inches	14	12	10
Weight per Box.....pounds	8	7	6 3/4

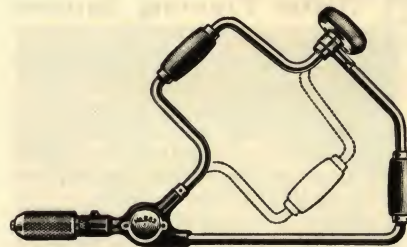
Millers Falls Ratchet Braces



For square shank bits. Has ebonized hard wood heads and handles. Boxed ratchet with ring shift. Barber chuck. With self-opening, forged steel alligator jaws. Ball bearing steel clad head. Handle has inserted metal rings. Exposed parts polished, plated and buffed. Packed 2 in a box.

No.....	1321	1322	1323	1324
Each.....	\$7.25	7.00	7.00	7.00
Sweep.....inches	12	10	8	6
Weight.....pounds	3	2 3/4	2 1/2	2 1/4

No. 502 Millers Falls Corner Braces



Capacity, 1/8 to 1/2-in. round, bit shanks and No. 1 Morse taper shanks. Master chuck. Case-hardened gears, enclosed for protection. Ball thrust bearing at base of chuck. Hardened steel

bushings at chuck spindle and sweep. Ball-bearing head. Stained hardwood handles, free acting, with inserted metal rings. Exposed metal parts nickel-plated, hub casting jannapped. Sweep, 10 inches. Length, 17 inches.

Packed 2 in a box; weight, 8 pounds.

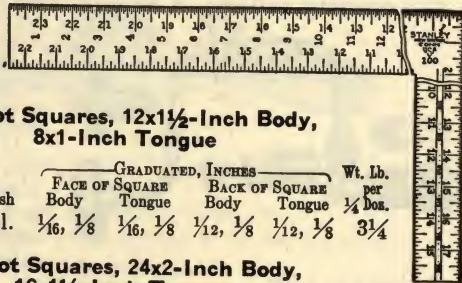
No. 502.....each	\$12.80
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Millers Falls Brace Jaws



Jaw No.	For Braces No.	Per Pair
7	142, 1410, 1610, 1662 and 1663.....	\$.45
8	31, 32, 33, 1321, 1322, 1323, 1324, 1708, 1710, 1712 and 1950.....	.65
9	502, 730, 731, 732, 733 and 5010.....	.85
10	770, 771, 772 and 7312.....	.85

Stanley Carpenters' Steel Squares



1-Foot Squares, 12x1 1/2-Inch Body, 8x1-Inch Tongue

No.	Each	Finish	GRADUATED, INCHES				Wt. Lb. per 1/4 Doz.
			FACE OF SQUARE Body	Tongue	BACK OF SQUARE Body	Tongue	
12	\$2.00	Pol.	1/16, 1/8	1/16, 1/8	1/12, 1/8	1/12, 1/8	3 1/4

2-Foot Squares, 24x2-Inch Body, 16x1 1/2-Inch Tongue

Brace, Octagon and Essex Board Measure and 100ths Scale

No.	Each	Finish	GRADUATED, INCHES				Wt. Lb. per 1/4 Doz.
			FACE OF SQUARE Body	Tongue	BACK OF SQUARE Body	Tongue	
*100	\$3.20	Polished	1/16, 1/8	1/16, 1/8	1/12, 1/8	1/12, 1/8	6 1/4
*100B	3.70	Blued	1/16, 1/8	1/16, 1/8	1/12, 1/8	1/12, 1/8	6 1/4

Brace and Essex Board Measure

3	\$2.90	Polished	1/16, 1/4	1/16, 1/4	1/12, 1/4	1/12, 1/4	6 1/4
3B	3.40	Blued	1/16, 1/4	1/16, 1/4	1/12, 1/4	1/12, 1/4	6 1/4

Essex Board Measure

14	\$2.70	Polished	1/8, 1/4	1/8, 1/4	1/4	1/4	6 1/4
14B	3.20	Blued	1/8, 1/4	1/8, 1/4	1/4	1/4	6 1/4

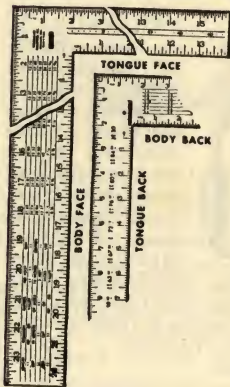
Rafter or Framing Squares, 24x2-Inch Body, 16x1 1/2-Inch Tongue

Rafter or Framing, Brace, Octagon, Essex Board Measure and 100ths Scale

*R100	\$3.50	Polished	1/16, 1/8	1/16, 1/8	1/12, 1/8	1/10, 1/12	6 1/4
*R100B	4.00	Blued	1/16, 1/8	1/16, 1/8	1/12, 1/8	1/10, 1/12	6 1/4
R100C	4.70	Royal Copper	1/16, 1/8	1/16, 1/8	1/12, 1/8	1/10, 1/12	6 1/4

*With 18x1 1/2-inch tongue at no extra cost.

No. W100RS Woodmark Stainless Steel Rafter Framing Squares



Constructed of hard rigidly tempered solid stainless steel.

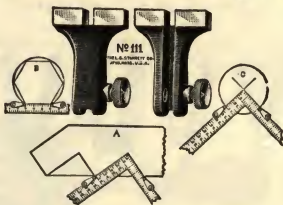
Permanent jet black graduations and markings of inlaid metal, cannot dissolve or wear off. Square dimensions: body, 24x2 inches; tongue, 16x1 1/2 inches.

All surfaces and edges precision ground for trueness and accuracy of tongue, angle and body.

Packed 1/4 dozen in box.

No. Dozen in Master Carton.....	1	2	3
Ship. Weight....lb.	28 1/2	57	83

No. 111 Starrett Stair Gage Fixtures



Can be clamped to a carpenter's steel square to form a gage for various uses, as in stairs, valley cuts, hip and rafter work.

Sketch A shows the gage as applied for laying out a stair stringer. Sketch B shows laying off hexagon angles. Sketch C shows gage used as a center gage or in quartering a circle.

Packed 3 pairs in a box.

No. 111, 3/4-Inch.....	per pair \$1.65
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No. 20 Stanley Try Squares



Edge of blade machined and square inside and out. Regularly graduated in eighths of an inch, but can be furnished with metric graduations without additional charge. Rosewood handle, brass face plate, gun black finish on blade.

Packed 6 in a box.

Length Blade.....inches	6	8	10	12
No. 20.....each	\$1.60	1.70	1.90	2.50
Size Handle.....inches	4 1/2	5 3/8	6	7
Weight per Half Dozen....pounds	2 1/8	3 1/8	3 3/4	4 1/2

No. 25 Stanley Sliding T Bevels



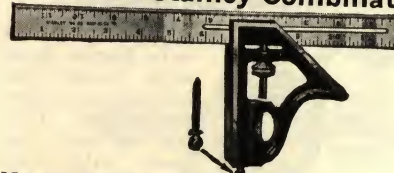
Improved locking device prevents blade from slipping. Blade is machined and ground on both sides and edges.

Has rosewood handle and gun black finish blade. Brass tips.

Packed 6 in a box.

Length Blade.....inches	6	8	10	12
No. 25.....each	\$1.30	1.40	1.50	1.90
Size Handle.....inches	4 1/2	5 1/2	6 1/2	7 3/8
Weight per 6.....pounds	1 1/8	1 5/8	2	2 1/2

No. 21 Stanley Combination Squares



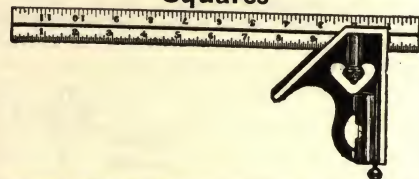
Graduated in 8ths, 16ths and 32nds. Iron handles, japanned.

Length blade, 12 inches; length handle, 4 1/4 inches.

Packed 1 in box.

No. 21, Weight, 1 Pound.....each	\$2.25
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Millers Falls Carpenter's Combination Squares



Can be used as try square, mitre square, depth gage, marking gage, or as level or plumb. Steel blade, 1-inch wide, accurately graduated, clearly etched in 8ths and 16ths on one side and 16ths and 32nds of an inch on the other.

Beam has accurately milled working faces with polished edges and black enameled web. Cat's-eye level vial. Well-pointed scriber. Knurled thumb nut. Packed 1 in a box.

No. 9500, 9-Inch Blade; Weight, 14 Oz.....each	\$1.90
No. 1200, 12-Inch Blade; Weight, 15 Oz.....each	2.00

No. 4 Stanley Trammel Points



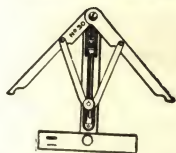
For straight edge up to 1 1/4 inches. Can be attached to one side of a straight stick. Pencil socket takes an ordinary sized pencil or a full sized oval shaped carpenter's pencil.

Packed 1 set in a box.

Weight per set, 3/8 pound.

No. 4, Nickel-Plated.....	per pair \$1.80
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No. 30 Stanley Angle Dividers



Bisecting an angle with an ordinary bevel requires use of dividers as well as a second handling of bevel, making three operations. With divider, this can be done in one operation. Can also be used as a try square. Two arms are of steel and can be firmly locked by means of an adjusting screw.

Body is of iron, nickel plated. Graduated on one side for laying out 4, 5, 6, 8 and 10 sided work.

No. 30.....	each	\$4.30
Handle Length.....	inches	7 $\frac{3}{8}$
Length Overall.....	inches	8 $\frac{1}{4}$
Weight.....	pounds	$\frac{5}{8}$

No. 61 Stanley Square Head Marking Gages



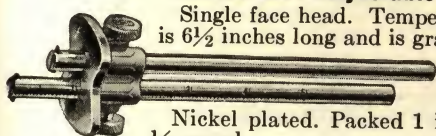
Beech; boxwood screw. Bar graduated in 16th inch for 6 inches from point.

Packed 12 in a box. Weight 3 pounds per dozen.

No. 61.....	each	\$.60
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No. 91 Stanley Metal Marking Gages

Double Bar—Adjustable



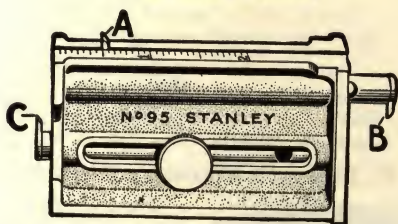
Single face head. Tempered points. Bar is 6 $\frac{1}{2}$ inches long and is graduated in 16ths of inches for 5 inches.

Nickel plated. Packed 1 in box. Weight, $\frac{1}{2}$ pound.

No. 91.....	each	\$1.90
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No. 95 Stanley Butt Gages

For Rabbeted Jamb



Nickel plated. Graduated in 16ths for 2 inches.

Can be used as a marking and mortise gage and as inside or outside square for squaring the edge of the butt on either door or jamb.

Packed 1 in a box. Weight, each, $\frac{5}{8}$ pound.

No. 95.....	each	\$3.30
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No. 106 Wing Dividers

The wings and nuts on the wings are made of steel; the washers on the joints are brass.

Points are hardened and every care is taken with the threads of the screws, which hold the legs in position.

The spring is tempered and is made for easy adjustment while holding the legs firmly.

Size In.	Per Doz.	Wt. Lb. per Doz.	Size In.	Per Doz.	Wt. Lb. per Doz.
6	3 $\frac{1}{2}$	12	.....	9 $\frac{1}{4}$
7	3 $\frac{3}{8}$	15	.....	17
8	4	18	.....	19
10	7	24	.....	27

No. 0 Stanley Wood Plumbs and Levels

Non-Adjustable



Proved glass. Stock, 2 $\frac{3}{4}$ x1 $\frac{1}{16}$ inches.

Packed 1 in a cardboard wrapper.

Length.....	inches	18	24	26	28	30
No. 0.....	each	\$2.90	3.00	3.10	3.30	3.50
Weight.....	pounds	1 $\frac{1}{2}$	1 $\frac{5}{8}$	2	2 $\frac{1}{8}$	2 $\frac{1}{4}$

No. 3 Stanley Wood Plumbs and Levels



Cherry wood. Adjustable proved glass. Brass tips.

Packed 1 in a cardboard wrapper.

Length.....	inches	24	26	28
No. 3.....	each	\$4.60	4.70	4.80
Weight.....	pounds	3	3 $\frac{1}{4}$	3 $\frac{1}{2}$

Mayes Aluminum Levels



For use by machinists, carpenters and masons.

Scientifically constructed from 99 per cent pure virgin aluminum plus sufficient alloy to give strength and durability.

Finished in natural aluminum on the inside frame and vermilion enamel on the outside. Vials permanently marked and set in large white openings.

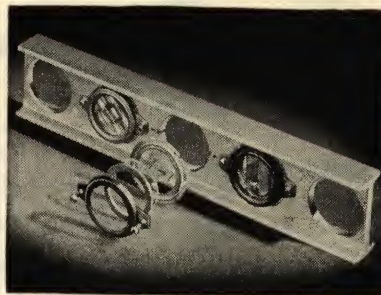
Light in weight, and will not warp.

Packed 1 in a box, 6 in a carton.

No.....	1818	2424	2828
Each.....	\$4.80	5.20	5.80
Size.....	inches 2 $\frac{5}{16}$ x1 $\frac{1}{16}$	2 $\frac{1}{4}$ x1	2 $\frac{3}{8}$ x1 $\frac{1}{16}$
Length.....	inches 18	24	28
No. of Vials.....	4	6	6
Weight.....	pounds 1 $\frac{5}{8}$	2	2 $\frac{1}{8}$

Schultes Carpenters' & Mechanics' Levels

6-Vial Type



Stop-light colors focus eye at proper place, making work easy and fast. Red means plumb, green means level, and amber means angle.

Pre-adjusted spirit vials. To replace, remove preadjusted vial assembly from level. Put new assembly in place and it will be accurate within 1/10

of 1 degree. Vial assemblies are interchangeable and will fit plumb, level and angular positions equally.

Constructed of 1x2 $\frac{3}{8}$ -inch I-section aluminum alloy.

Has double plumb, double level and double miter.

No.	Each	Length Inches	Wt. Lb.	No.	Each	Length Inches	Wt. Lb.
126	\$4.40	12	1	246	\$6.33	24	2
186	5.50	18	1 $\frac{1}{16}$	286	7.70	28	2 $\frac{3}{16}$
...	...	...	...	306	8.25	30	2 $\frac{5}{16}$
...	...	...	...	426	10.18	42	3 $\frac{1}{2}$
...	...	...	...	486	11.00	48	3 $\frac{3}{4}$

Anodized aluminum levels are available at 20 per cent additional. Will not corrode or tarnish. This special electric process hardens the surfaces.

Parts

No.	Description	Each	Std. Pkg.
101	Vial Assembly.....	\$.55	12
102	Gasket.....	.06	12
103	Protecting Lens.....	.11	12
104	2 Retainer Screws.....	.06	12
105	Retainer Frame (Specify Red, Green or Amber).....	.22	12
113	Adjustable Vial without Prong.....	.44	12

No. 1294 Mayes' Air Flow Torpedo Levels



Made of polished aluminum with nickeloid top plate. Fitted with 1 plumb, 1 level and 1, 45°. Size, 1 1/4 x 3/4 x 9 inches. Packed 6 in a box.
No. 1294, Weight, 5 Ounces.....each \$2.12

Peerless Carpenters' Levels



Made of California sugar pine with natural finish and with vermilion stripe beneath outer finish.

Furnished with 4 Pyrex glass vials.

No. 04. Without end plates.

No. 4. With metal end plates.

Packed 1 in a carton.

	No. 04		No. 4	
Size.....in.	2 1/4 x 1 1/8 x 24	2 1/4 x 1 1/8 x 30	2 1/4 x 1 1/8 x 24	2 1/4 x 1 1/8 x 30
Each.....	\$3.70	4.10	4.20	4.60
Approx. Wt...lb.	1	1 1/4	1	1 1/4

No. 11 Peerless Plasterers' Levels



Made of mahogany with natural finish. Without end plates. Furnished with 2 level, 1 plumb and 1-45° Pyrex glass vials. Packed 3 in a carton.

Size.....inches	2 1/4 x 1 1/8 x 12	2 1/4 x 1 1/8 x 16	2 1/4 x 1 1/8 x 20
No. 11.....each	\$3.30	3.50	3.75
Approx. Wt... pounds	1/4	1/2	3/4

Peerless Masons' Levels



Made of California sugar pine with dark maroon finish.

Furnished with 6 Pyrex glass vials with cushioned tip. Magna-truss lens is optic formed for quick, easy reading.

No. 03. Without end plates.

No. 3. With metal end plates.

Packed 1 in a carton.

	No. 03		No. 3	
Size.....in.	2 3/8 x 1 1/8 x 42	2 3/8 x 1 1/8 x 48	2 3/8 x 1 1/8 x 42	2 3/8 x 1 1/8 x 48
Each.....	\$7.80	8.00	8.30	8.50
Approx. Wt...lb.	1 3/4	2	1 3/4	2

No. 40 Peerless Masons' Levels

Made of California sugar pine with natural finish. Aluminum bound. With metal end plates. Furnished with 6 Pyrex glass vials with cushioned tip. Magna-truss lens is optic formed for quick, easy reading. Packed 1 in a carton.

Size.....inches	2 3/8 x 1 1/8 x 42	2 3/8 x 1 1/8 x 48
No. 40.....each	\$11.30	11.50
Approximate Weight..... pounds	2 1/4	2 1/2

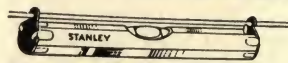
No. 31 Stanley Hexagon Pocket Levels



Nickel-plated, proved glass set in solid plaster.

Length.....inches	2	2 1/2	3	3 1/2
No. 31.....each	\$.90	.90	1.00	1.20
Weight per 1/2 Dozen.....pounds	1/8	1/4	1/2	5/8

No. 187 Stanley Line Levels

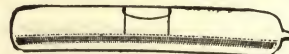


Especially useful when laying brick walls, digging ditches, trimming hedges, etc. Octagonal shape aluminum tubing. Bottom is flat for surface leveling. Proved level glass. Length, 3 1/4 inches. Packed in individual boxes, 6 in a carton.

Weight per 1/2 dozen, 6 ounces.

No. 187.....each \$.65

No. 208 Stanley Proved Level Glasses



Glasses are packed 1 dozen in a box.

Length.....inches	1-13/4	2	2 1/4	2 1/2	3	Asst'd
No. 208.....each	\$.10	.10	.10	.15	.15	1.50
Wt. per Dozen....lb.	1/4	1/2	1/2	1/2	5/8	3/4

No. 800 General Solid Brass Plumb Bobs



Streamlined for easy and accurate spotting. Removable screw cap permits simple cord attachment. Perfect balance.

Replaceable tempered steel points.

Carefully machined of brass, polished and lacquered.

Individually packed in strong metal end screw cap tubular container.

Size.....inches	6	8	10	12	16	24
Each.....	4 1/4	4 1/2	4 3/4	5	5 3/4	6 1/2
Length.....inches	4 1/4	4 1/2	4 3/4	5	5 3/4	6 1/2

No. 87 Starrett Mercury Plumb Bobs

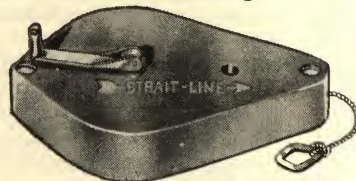


Stringfastens without knot by drawing it into slotted neck at top.

Made from solid steel, filled with mercury.

Length.....inches	4	5	5 1/2	6
No. 87.....each	\$3.90	5.20	6.40	7.25
Diameter.....inches	1/2	5/8	7/8	1
Weight.....ounces	3 1/2	6	12	16

No. 125 Strait-Line Chalk-Line Boxes Self-Chalking



Air-tight case is precision molded of an aluminum alloy. Self-locking fabricated steel handle folds flat. Approx. 50 ft. of No. 15 seine twine furnished; cap. 100 ft.

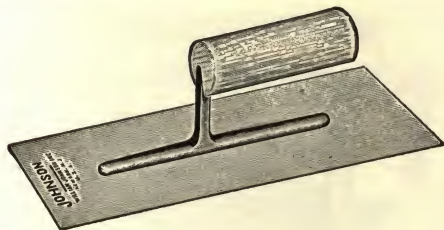
Can be used as a plumb bob.

By removing two coin-slot screws, box may be filled. Length, 5 inches; width, 3 inches; thickness, 1 inch.

Packed individually; 1 gross to a standard shipping case. Approximate weight per case, 60 pounds.

No. 125, Box without Chalk.....each \$1.25

No. 191 Johnson Plastering Trowels



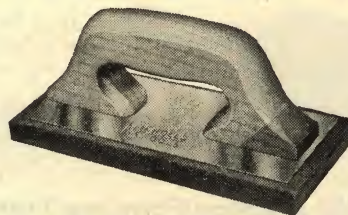
Hardened, tempered saw steel blade and malleable iron shank, are fully polished.

Poplar handle is smoothly sanded.

Packed 6 in a box.

Length.....inches	10	10½	11	11½
No. 191.....per dozen				
Weights per Dozen.....pounds	10½	11	11¼	11¾

Nicholls Rubber Faced Floats



No. RF-12, Moulded Rubber

Float has aluminum back. Size, 8x3¾x5⅝ inches.

Packed 6 to a box.

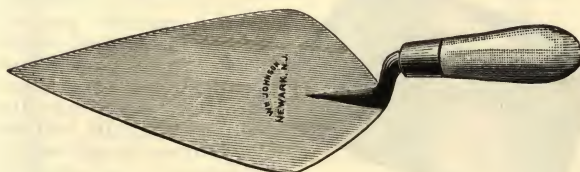
Weight per dozen, 12 pounds.

No. RF-11, with Foam Rubber Facing...per dozen \$26.00

No. RF-12, with Moulded Rubber Facing...per dozen 30.50

No. 175 Johnson Brick Trowels

London Pattern—Hammer Forged



Hammer forged from bar steel.

Packed 6 in a box.

Size.....	8	9	9½	10	10½
No. 175.....per dozen					
Weight per Dozen.....pounds	8¼	8¾	9	10	10½

No. 110 Wm. Rose Brick Trowels

Philadelphia Pattern



Made of good grade steel. Ferrule 1¾ inch above bottom of blade. Can be supplied with limber blades.

Hardwood handle, lgth. 6 in.

Packed 6 in a box. Shipping weight per dozen, 13 pounds.

Length Blade Inches	Per Dozen	Width Blade Inches	Length Blade Inches	Per Dozen	Width Blade Inches
7	\$36.00	4½	11	\$48.00	5½
7½	36.00	4⅝	11½	48.00	5½
8	36.00	4¾	12	48.00	5½
8½	42.00	5⅛	12½	54.00	5½
9	42.00	5⅜	13	54.00	5½
9½	42.00	5⅝	13½	54.00	5½
10	48.00	5¾	14	54.00	5½
10½	48.00	5⅞	.....	.....	.....

No. 113 Wm. Rose Round Heel Brick Trowels

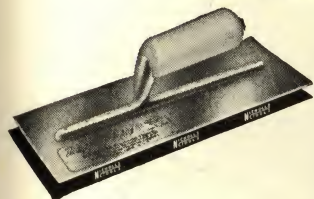


Has 6-inch hardwood handle. Blade has a spring like the Philadelphia pattern.

Can be supplied with limber blade.

Length Blade Inches	Per Dozen	Length Blade Inches	Per Dozen	Length Blade Inches	Per Dozen
7	\$36.00	9½	\$42.00	12	\$48.00
7½	36.00	10	48.00	12½	54.00
8	36.00	10½	48.00	13	54.00
8½	42.00	11	48.00	13½	54.00
9	42.00	11½	48.00	14	54.00

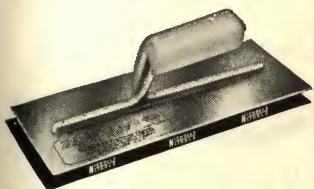
Nicholls Zephyrlite Finishing Trowels For Plasterers



Drop-forged aluminum shank. Swedish steel blade of special analysis. Hardened steel rivets will not wear faster than the blade. Finest quality wood handle, tapered or California style.

No.	Per Doz.	Size Inches	No.	Per Doz.	Size Inches
NZL-1	\$50.40	4½x11	NZL-6	\$50.40	4 x11½
NZL-2	50.40	4½x11½	NZL-9	50.40	4½x10
NZL-3	50.40	4¾x11	NZL-10	50.40	4½x10½
NZL-4	50.40	4¾x11½	NZL-11	50.40	4¾x10½
NZL-5	50.40	4 x10½	NZL-21	50.40	4¾x12

Nicholls ZephyrLite Finishing Trowels For Cementers



Drop forged aluminum shank. Swedish steel blade. Hardened steel rivets will not wear out faster than blade.

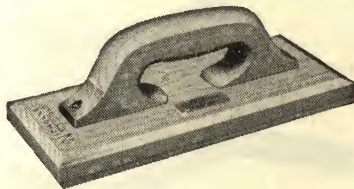
Finest quality wood handle, choice of tapered or California style.

Packed 1 to a box.

Weight per dozen, 15 pounds.

No.	Size Inches	Per Dozen	No.	Size Inches	Per Dozen
NZL-17	3 x12	\$50.40	NZL-19	4 x11	\$50.40
NZL-15	3 x14	56.70	NZL-12	4 x12	50.40
NZL-18	3½x12	50.40	NZL-14	4 x14	56.70
NZL-16	3½x14	56.70	NZL-20	4½x12	50.40

Nicholls Cork Faced Floats

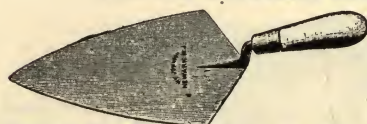


No. CK-1

Made of seasoned and treated wood.

No.	Per Dozen	Size Inches	No.	Per Dozen	Size Inches
CK-1	\$37.80	12x5	CK-2	36.80	10½x4
Size.....					
No. per Box.....	3			3	
Weight per Dozen.....pounds	17			17	

No. 177 Johnson Brick Trowels

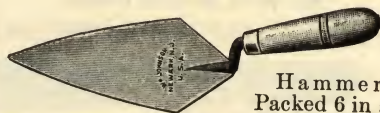


Has forged steel blade, hardwood handle and steel ferrule.

Packed 6 in a box.

Length Blade.....inches	8	8½	9	9½	10	10½	11
Width Blade.....inches	4½	4½	4½	4½	5	5½	5½
Wt. per Dozen.....lb.	10¼	10½	11	11½	11¾	12¾	13

No. 182 Johnson Pointing Trowels



Hammer forged.
Packed 6 in a box.

Size.....inches	3	3½	4	4½	5	5½	6
No. 182.....per dozen							
Wt. per Doz.....lb.	2¼	2½	2¾	2¾	3	3½	3½

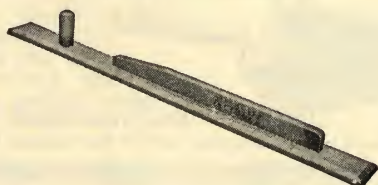
Nicholls Master Mechanics' Hawks



Hawk has round corners to prevent bending and machine grooved circular surface. Made of 12-gage hard rolled aluminum. Has one-piece zinc handle mounting, with bolt extending through entire handle. Callous-preventing ring is supplied with each hawk.

No.....	NMM-0	NMM-1	NMM-2
Per Dozen.....	\$33.00	34.00	36.00
Size.....inches	12x12	13x13	13½x13½
No. per Box.....	1	1	1
Weight per Dozen... pounds	32	32	32

No. 11 Nicholls Darbies



Made from vertical grain sugar pine.

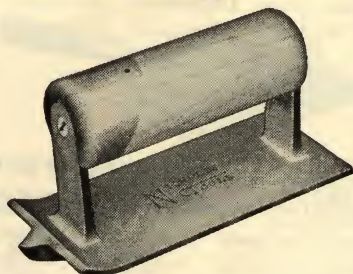
Unbound.

Packed as ordered.

Weight per dozen, 18 pounds.

No. 11.....per dozen \$30.00

No. CJ-15 Nicholls Cementers' Jointers



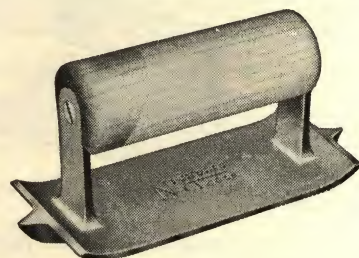
Jointer has special alloy face with seasoned and treated wood handle. Size 5½x2¾x¾ inches.

Packed 6 to a box.

Weight per dozen, 10 pounds.

No. CJ-15.....per dozen \$25.44

No. CG-16 Nicholls Cementers' Groovers



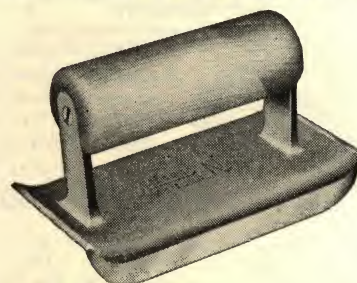
Groover has special alloy face with seasoned and treated wood handle. Size, 6x2¾x¾ inches.

Packed 6 to a box.

Weight per dozen, 10 pounds.

No. CG-16.....per dozen \$25.44

No. CE-17 Nicholls Cementers' Edgers



Edger has special alloy face with seasoned and treated wood handle. Size 5½x2¾x¾ inches.

Packed 6 to a box.

Weight per dozen, 10 pounds.

No. CE-17.....per dozen \$25.44

Wm. Rose Brick Jointers

Made of tool steel, formed to fit the hand. Tempered, accurately ground and polished.

No. 5042 Bullhorn



Diam. Large	1/4	3/8	1/2	5/8	3/4	7/8	1
End.....in.							
Per Dozen....	\$12.00	15.00	19.20	24.00	28.80	33.60	38.40
Ship Wt....lb.	2	4	6	8	12	16	22

No. 5131 Heavy Convex



Width of Face.....inches	1/8x1/4	1/4x3/8
Per Dozen.....	\$15.00	15.00

No. 5121 Light Convex



Width of Face.....in.	3/8x1/2	1/2x5/8	5/8x3/4	3/4x7/8	7/8x1
Per Dozen.....	\$14.40	14.40	14.40	14.40	14.40

No. 5331 Heavy Concave



Width of Face.....inches	1/8x1/4	1/4x3/8
Per Dozen.....	\$18.00	18.00

No. 5321 Light Concave



Width of Face.....in.	3/8x1/2	1/2x5/8	5/8x3/4	3/4x7/8	7/8x1
Per Dozen.....	\$18.00	18.00	18.00	18.00	18.00

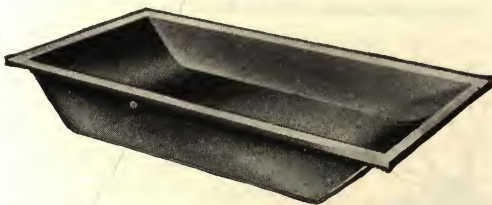
Vulcan Adjustable Brick Clamps



For handling and unloading brick.
Made of malleable iron or pressed steel.
Capacity, 6 to 10 bricks.

	Malleable Iron	Pressed Steel
No.	1336-M	1336-S
Each.		
Weight. pounds	5½	4½

Anchor Steel Mortar Boxes Nestable



Made of one-piece No. 14 gage steel with lap welded corners. Leakproof. Tubular edge serves as handle.

	M07	M10	M14	M18	M24
Capacity. cubic feet	6	9	13	17	23
Width. inches	30	36	36	42	48
Length. inches	48	54	72	84	96
Depth. inches	12	12	12	12	12
Weight. pounds	50	70	85	110	145

Buhrke All Canvas Bags



Made of one-piece of heavy No. 8, white duck, extending around bottom.

It is a one-piece bag, the bottom is two thicknesses, with heavy board filling. All sewing by lock stitch machine. Each bag has lock and key. Five steel studs on bottom.

Inside pocket supplied at small extra charge.

No.	Size Inches	Price Each	No.	Size Inches	Price Each
225-12	12x10½x5½	.....	225-20	20x15½x5½	.....
225-14	14x13½x5½	.....	225-22	22x15½x5½	.....
225-16	16x13½x5½	.....	225-24	24x15½x5½	.....
225-18	18x15½x5½	.....		

No. 250 Buhrke Mechanics' Tool Bags

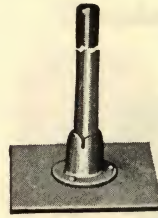


Made of No. 8 white canvas with heavy split leather bottom and reinforcements. Reinforced for 3½ inches, from bottom. Bottoms are equipped with steel studs for protection. The handles are heavy leather securely riveted to the main frame. Can be furnished with frame equipped for padlock and shoulder strap. Inside pockets can be arranged.

No.	250-12	250-14	250-16	250-18	250-20	250-22	250-24
Each.							
Length. in.	12	14	16	18	20	22	24
It. in.	10½	13½	13½	15½	15½	15½	15½
Vt. lb.	2½	2½	3	3½	3½	4½	4½

Style 1 Tampers

A sturdy, concrete tamper consisting of a heavy steel plate with malleable iron socket and 4-foot wood handle.



Base. inches	8x8	10x10	12x12
Each.	\$8.00	9.00	9.80
Weight. pounds	10	13	15

Cement and Sod Tampers

Cast iron bases; extra large wood handles, 2¼ inches in diameter at base and 48 inches long.

Round

No.	Each	Size Base Inches	Weight Pounds
5W	\$5.40	5	15
6W	5.40	6	20
6AW	5.50	6	14
7W	6.60	7	20
7AW	4.80	7	10
8W	7.20	8	20

Square

6x 6W	\$4.30	6x 6	12
7x 7W	5.30	7x 7	14
8x 8W	5.80	8x 8	18
8x 8AW	5.20	8x 8	14
9x 9W	6.30	9x 9	18
10x10W	6.30	10x10	18
12x12W	8.40	12x12	26
6x 8W	5.80	6x 8	18

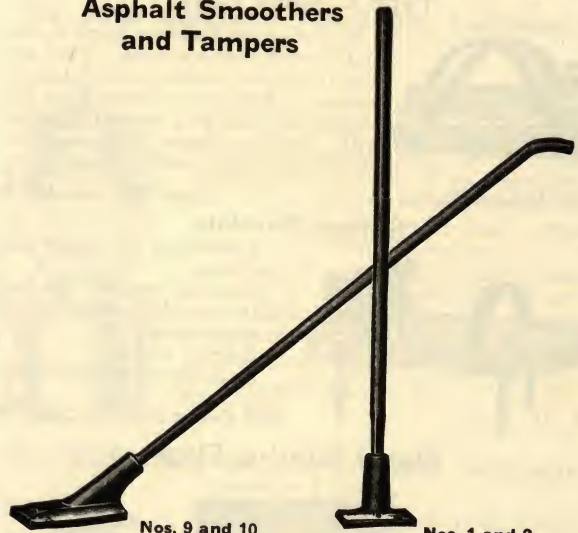
Wood Tamper Handles

Weight per dozen, 48 pounds.
Per Dozen. \$27.60

No. 6W
Round

No. 10x10W
Square

Asphalt Smoothers and Tampers



Nos. 9 and 10

Nos. 1 and 2

Handles are of 1¼-inch steel pipe welded to solid steel bar cast solid in the base. Bases have carefully ground smooth surfaces. Can be heated without injury.

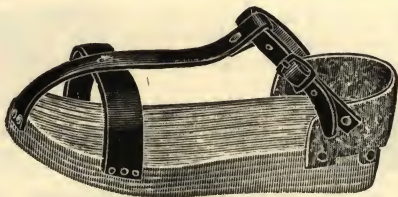
Smoothers

No.	9	10	11
Each.	\$16.80	20.40	28.80
Size Shoe. inches	6½x10½	7x11	7½x14½
Weight. pounds	45	55	65

Tampers

No.	0	1	2	3
Each.	\$12.60	11.40	12.60	16.80
Size Base. inches	6x6	6x8	6x8	8x8
Weight. pounds	32	30	37	40

Asphalt Wood Sole Sandals

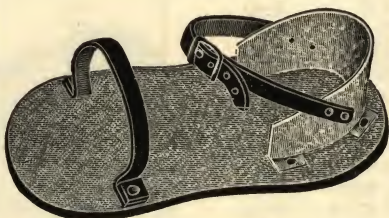


Wood sole sandals are made from high grade wood to stand the heat. They are $4\frac{5}{8}$ inches wide and $13\frac{1}{2}$ inch long, and 2 inches thick at front of heel. They have heavy galvanized iron heel counters $3\frac{1}{2}$ inches high. They are well riveted together with high grade ankle and toe straps.

Weight per dozen pairs 45 pounds.

Wood Sandals.....per dozen pairs \$67.00

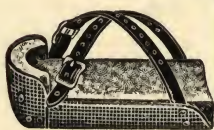
Sandow Flat Sandals



Flat sandals, commonly called fibre sandals, are made from heavy lock stitched canvas belting. They are 7 inches wide and 14 inches long; have heavy galvanized heel plates or counters; well riveted together with substantial leather straps. Weight, per dozen pairs, 44 pounds.

Per Dozen..... \$72.00

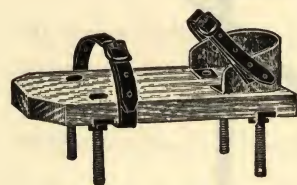
Type C Knee Pads



Style C Knee Pads are large in size and fit well over knee cap. They are made from good chrome or bark tanned leather. They have a heavy hair felt padding and are well riveted together with double straps and buckles. Weight per dozen pairs 18 pounds.

Type C Knee Pads.....per doz. pair \$43.00

Spiked Sandals



Reinforced to prevent splitting.

Have galvanized iron heel plates with leather ankle and toe straps.

Height, 4 inches.

Shipping weight per dozen, 80 pounds.

Per Dozen Pair.... \$47.00

Signal Bunting Flags



Furnished hemmed, on wood staff or steel staff in red, white, green, yellow or blue colors.

Size 18x20 inches.

No. 80 Dietz Highway Flare Torches With No. 87 Burners



Made of 20-gage steel. Broad, flat bottom and curving fender sides. Equipped with rain shield and carrying ring.

Will burn kerosene or light fuel oil: Capacity 80 fluid ounces ($2\frac{1}{2}$ quarts); burns over 24 hours.

Height, $6\frac{1}{8}$ inches; diameter, $7\frac{3}{4}$ inches. Wick, round, $\frac{3}{4}$ -inch. Enameled blue.

Packed 3 in carton.

Shipping weight 8 pounds.

No. 80.....per dozen
Torch Wick $\frac{3}{4}$ x18 Inches.....per dozen

No. 87 Dietz Highway Flare Torches Kerosene or Light Fuel Oil Capacity 3 Quarts—Burns More Than 30 Hours



Made of steel with double seamed and sealed joint.

Bottom weighted.

Burner made of heavy steel. With side carrying ring.

Height, 8 inches: diameter, 8 inches; wick, $\frac{3}{4}$ inch. Blue enamel finish.

Packed 3 in a carton; weight, $5\frac{5}{8}$ pounds, each.

No. 87.....per dozen
Torch Wick, $\frac{3}{4}$ x18
Inches.....per dozen

Toledo Non-Self-Righting Signalite Torches



Made from 20-gage steel and the halves are joined together by a leakproof, double-seamed joint.

No. 651, Model A

Burns up to 52 hours on one filling. The base diameter is enlarged for stability.

Packed 3 in a carton.

Ship. weight per dozen, 35 lb.

No. 651.....per dozen \$27.00

No. 641, Model F

A smaller torch of the same diameter as above, but of reduced height. Capacity, $4\frac{1}{2}$ pints.

Useful for truck operators using general equipment boxes. Packed in pairs and 4 in a carton.

No. 641.....per dozen \$27.00

Toledo Torches

This torch rights itself from any position; uses kerosene; has a capacity of 3 quarts; is equipped with the Economy Burner and burns up to 48 hours on 1 filling; finished in high luster black, baked enamel. Packed 3 per box.



No. 620 Leader

Made from 20-gage steel; halves joined together with leak-proof double seamed joint.

Weight, $5\frac{1}{2}$ pounds.

No. 620.....per doz. \$33.00

No. 630 Champion

Made of 14-gage steel and is welded at the seam.

Weight, $6\frac{1}{2}$ pounds.

No. 630.....per doz. \$50.20

No. 610, Extra Wicks, 18 Inches Long.....per doz. 4.00

Dietz Night Watch Kerosene Lanterns



For use whenever a safety warning light is required.

Prisms of specially designed fresnel globe capture and direct light rays to form a vertical pencil beam of great intensity. Beam can be seen from any angle or position for great distances.

Will withstand abuse and all weather conditions. Exclusive trip-lock. Welded guards protect globe. Globe equipped with peep hole.

Height, 8 in.; base diam., 6 $\frac{3}{4}$ in. Capacity, 16 oz. or

100 hours of kerosene; has 1 $\frac{1}{2}$ -in. brown stripe wick. Yellow finish; ruby globe. Packed 1 dozen in a carton. Weight, 29 lb. Per Dozen.....

Dietz Streamline Monarch Lanterns

Hot Blast—For Kerosene

Will burn for 30 hours.

Made of terne plate, finished in blue enamel.

Fitted with No. 411 steel burner, and Dietz Fitzall Loc-Nob globe.

Available with white or solid ruby globes, as specified.

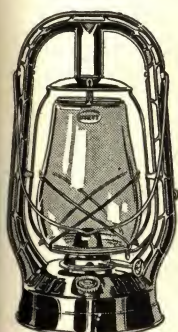
Height, 13 $\frac{1}{2}$ inches.

Light, 4 candle power.

Wick, $\frac{5}{8}$ inch.

Capacity, 16 ounces.

Packed 12 in a package.



With White Globes.....per dozen
With Ruby Globes.....per dozen

Dietz Streamline Little Wizard Lanterns

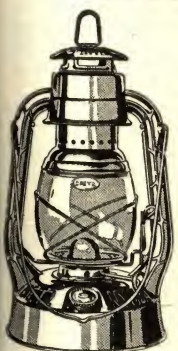
Cold Blast—Balanced Draft—For Kerosene

Fitted with Dietz Little Wizard Loc-Nob globe and specially braced lift-guide. Made of terne plate.

Blue-gray enamel finish.

Packed 12 in a package.

Height Overall.....inches	11 $\frac{1}{2}$
With White Globe....per dozen	.....
With Ruby, Yellow, Blue or	
Green Globe.....per dozen	.....
Volume of Light by Test....cp.	6
Size of Wick.....inches	$\frac{5}{8}$
Fount Capacity.....hours	30
Kerosene Capacity.....ounces	16
Lock Steel Burner No.....	211



Dietz Fitzall Loc-Nob Lantern Globes



Standard equipment on the following Dietz lanterns: Monarch, Hy-Lo, and No. 2 Blizzard.

Height, 6 $\frac{5}{16}$ inches. Diameter bottom, 3 $\frac{1}{16}$ inches. Diameter top, 2 $\frac{1}{16}$ inches.

Packed 36 in a case; shipping weight 30 pounds.

White.....per dozen
Ruby, Yellow, Blue or Green.....per dozen

Dietz Little Wizard Loc-Nob Lantern Globes



Will fit Little Wizard, Little Giant and Roadster Wagon lanterns. Ht., 3 $\frac{1}{16}$ in. Diam. top, 3 $\frac{1}{4}$ in. Diam.bottom, 2 $\frac{1}{16}$ in. Packed 3 doz. in pkg.

White.....per dozen
Ruby, Yellow, Blue, Green.....per dozen

Dietz Lantern Wicks

No. 1, $\frac{5}{8}$ -Inch, Red Stripe.....per gross

No. 2, $\frac{7}{8}$ -Inch, Red Stripe.....per gross

No. 3, 1 $\frac{1}{2}$ -Inch, Red Stripe.....per gross

Vesta, 3 $\frac{1}{4}$ -Inch, Green Stripe.....per gross

Toledo Torch Replacement Parts

No. 670 Hoods

Made of heavy gage steel.

No. 670.....each \$.60

No. 671 Wick Holders

Supports wick at proper adjustment, prevents bleeding of oil.

No. 671.....each \$.40



No. 670 Hood



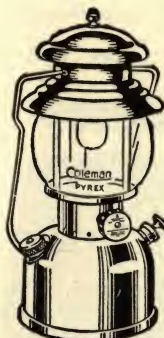
No. 671 Wick Holder

Braided Cotton Wicks

No. 610 for use in self-righting torches.
No. 611 for use in all Toledo Flares.

No.....	610	611
Per Dozen.....	\$4.00	2.00
Length.....inches	18	9

No. 200A Coleman Floodlight Lanterns



All purpose, all weather lantern for sport, camping, farm and general use.

Silk-lite mantle, No. 21A. Oversize generator, No. T-66. Pyrex glass globe, No. 550, curved to protect mantle.

Ventilator top, 5 $\frac{1}{2}$ inches in diameter, of red porcelain enamel.

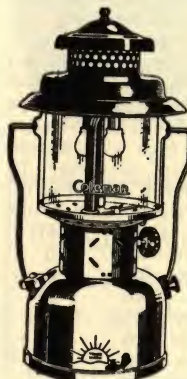
Heavy brass fuel fount holds 1 $\frac{1}{2}$ pints, enough for 8 to 10 hours lighting service. Diameter, 5 $\frac{1}{8}$ inches. Built-in pump. Large hand operated filler plug.

Shipping weight, 4 pounds.

Packed 1 in a carton.

No. 200A.....each \$11.95

No. 220E Coleman Instant-Lite Lanterns Gasoline Type



Equipped with Roto-Type burner, built-in pump and hand-operated filler plug. Fitted with pyrex globe. Lantern is windproof, rainproof and insect proof.

The green porcelain enamel top is 6 $\frac{3}{4}$ inches in diameter.

Nickel-plated fount is 6 inches in diameter and holds two pints of fuel, enough for 10 to 12 hours of lighting.

Height overall, 14 $\frac{1}{2}$ inches.

Packed 1 lantern in a carton, complete with 2 mantles.

Shipping weight, 5 pounds.

No. 220E.....each \$13.95

Sterling Dry Material Wheelbarrows
With Steel Wheel



No. D4S

All-welded tray with butt-welded rod in top edge; no rivets. Steel channel legs. V-shaped front braces and brace support. Continuous length handles of steel tubing; reinforced at rear bolt holes. No. 22 steel wheel, 16-

inch diameter, 12 spokes, 5/16x1 1/2-inch tire.
Wider-rim wheel or wheel with zero pressure or pneumatic tire available (specify).

No.....	D3 1/2 S	D4S
Max. Capacity.....	cubic feet 3 1/2	4
Tray Gage No.....	16	14
Overall Length.....	inches 63	63
Overall Width.....	inches 26	27
Overall Height.....	inches 24 3/4	25 1/2
Weight.....	pounds 76	84

Sterling Concrete Wheelbarrows
With Steel Wheel



No. C4 1/2 S

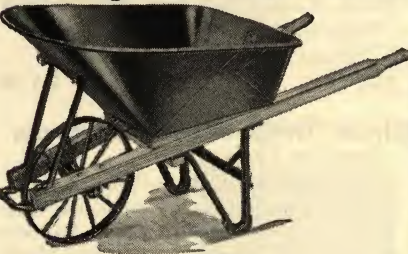
Narrow, deep tray with exact struck capacities for measuring; from 16-gage steel, all-welded, no rivets. Double corners; 1 1/2-inch diameter butt-welded rod rolled in top edges. V-shaped tray braces, 1/4 x 1 1/2-inch brace support. One-

piece tubular reinforced frame. Steel channel legs with shoes. No. 22 wheel, 16-inch diameter; 12 spokes; 5/16x1 1/2-inch tire.

Wheel with wider rim or with zero pressure or pneumatic tire available (specify).

No.....	C4 1/2 S	C5S
Max. Capacity.....	cubic feet 4 1/2	5
Struck Capacity.....	cubic feet 3 1/2	4
Overall Length.....	inches 63	63
Overall Width.....	inches 26	27
Overall Height.....	inches 28	29 1/2
Weight.....	pounds 83	88

Sterling Concrete and Measuring Barrows



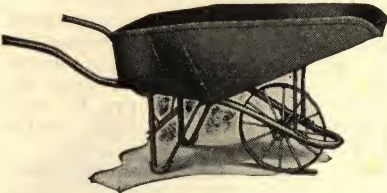
No. C4 1/2 W

Balanced. Narrow, deep tray has struck capacity for measuring and all-welded; no rivets; double-lapped corners; 1 1/2-in. diameter butt-welded rod rolled in top edge. V-shaped tray braces; 1/4 x 1 1/2-in. brace sup-

port. Hardwood handles. Steel channel legs with shoes. No. C4 1/2 W with No. 22 steel wheel, 16-in. diameter, 12 spokes; 5/16x1 1/2-in. tire. Malleable wheel guard. Pneumatic or zero pressure tired wheel available; specify when ordering

No.....	C4 1/2 W	C5W
Maximum Capacity.....	cubic feet 4 1/2	5
Struck Capacity.....	cubic feet 3 1/2	4
Tray Gage No.....	16	16
Overall Length.....	inches 62 1/2	62 1/2
Overall Width.....	inches 26	27
Overall Height.....	inches 28	29 1/2
Weight.....	pounds 80	83

Sterling Coal Wheelbarrows



No. 111-S

Load balanced over wheel.

All-welded tray of 14-gage steel with bar reinforcement at top; no rivets. Tray mounting: No. 111-S on continuous tubular steel frame; No. 111-W on hardwood

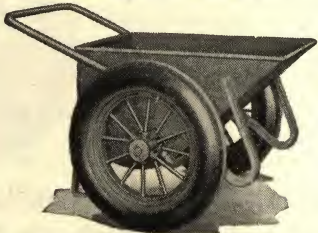
handles with malleable wheel guard.

No. 22 steel wheel, 16-inch diameter with 12 spokes; 5/16x1 1/2-inch tire standard.

Zero pressure or pneumatic tire tired wheel available; specify when ordering.

No.....	111-S	111-W
Maximum Capacity.....	cubic feet 6	6
Tray Gage No.....	14	14
Overall Length.....	inches 69	69
Overall Width.....	inches 24 3/4	24 3/4
Overall Height.....	inches 30	30
Weight.....	pounds 101	98

No. 626PR Sterling Concrete Carts
Capacity 6 Cubic Feet



Tray is made of 14-gage steel, all welded construction. Has a continuous 1/2-inch diameter butt-welded rod in top edge. Axle is one piece, bent underneath tray and up the sides. Made of alloy steel, heat treated after forging. Axle diameter is 1 1/8 inches.

Wheels are equipped with 400x18-inch pneumatic tires having an outside diameter of 26 inches. (5.00x21-inch tires having an outside diameter of 31 inches can be furnished when specified.) Tread of wheels, 30 inches. Roller bearings standard equipment.

Can be furnished with or without dumping rockers. Length, 52 inches; width 37 1/2 inches; height, 30 inches; level capacity, 6 cubic feet. Weight, 196 pounds.

Sterling Wheelbarrow Wheels
Pneumatic or Zero Pressure Cushion Tires



Pneumatic

With cold rolled steel axle, 5/8-inch diameter. Outside diameter, 16 inches.

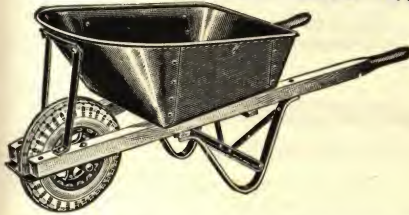
Pneumatics

With inner tube, available for any Sterling barrow. Can be equipped with malleable axle brackets and roller bearings or ball bearings. No. 42, 2-ply casing; weight, 14 pounds. No. 44, 4-ply; weight, 16 pounds.

No. 40 Zero Pressure Cushion

Rubber tire requiring no air pressure. No blowouts, punctures or maintenance. Can be equipped with malleable axle brackets and roller bearings. Weight, 25 lb.

No. 115 K & J Concrete Wheelbarrows
With Pneumatic Rubber Tired Wheels



Concrete-tight 16-gage tray is deep formed, cut, lapped and riveted.

Frames are selected hardwood.

Steel channel legs, braced, and steel shod.

Equipped with 2 or 4-ply, 4.00x8-inch pneumatic tired disc wheel with plain or roller bearing; or spoke-type plain steel wheel, as specified.

Capacity struck, 4 cubic ft.; capacity heaped, 6 cubic ft. Tray size: length, 38 inches; width, 24½ inches; depth front, 12¾ inches; depth back, 9 inches.

Approximate net weight, 76 pounds.

Salamanders



16-Inch Hood

Body is 16 inches in diameter, 15 inches high. Total height over all, 28 inches. Has 1x¾-inch steel band legs rounded as illustrated, which prevents cutting up the floor. Strongly made and braced by a band under the pan. Pressed steel corrugated pan.

16-Gage Steel, without Grate, Wt., 20 Lbeach \$16.00
Grate Only, Weight, 8 Pounds.....each 2.70

Extra Size Salamanders

Height body, 24 inches; 16-gage steel. Price is without grate.

16-Inch Diameter Body, Weight, 30 Pounds....each \$18.00
20-Inch Diameter Body, Weight, 40 Pounds....each 26.00

16-Inch Hoods

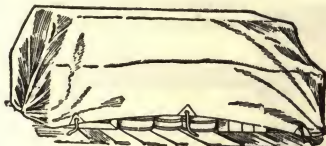
Made of 12-gage steel. Heavy supporting band, 6-inch pipe outlet and hinged door.

Each..... \$9.00

Extra Size Grates and Hoods

19-Inch Grate, Weight, 28 Pounds.....each \$8.00
20-Inch Hood.....each 19.00

Tarpaulin



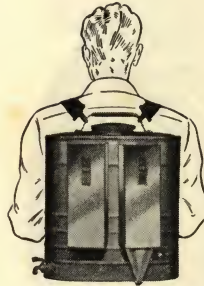
Made of good weight duck. Thoroughly waterproofed by best known treatment.

Waterproofing goes all the way through the material—not just on the surface. Adds strength and life to the fabric.

Prices upon application.

No. 700 Solo Portable Water Tanks

With No. C-750 Cup Dispenser and
No. C751 Used Cup Receptacle



Made of galvanized steel.

Has 5-gallon capacity.

Back of tank is of curved, double-wall construction to prevent body heat from being transmitted to water.

Equipped with shoulder straps, faucet, used cup receptacle and cup dispenser.

Aluminum bronze finish.

Weight is 14½ pounds.

Solo Straight Edge Cups
For Portable Water Tank



Made of clear white paper stock. Leakproof.
Put up 200 in a tube, 5000 in a case.

No.....	155	156	158
Approx. Capacity.....	ounces 5¾	7	8
Weight per Case of 5000.....	pounds 28	34	37

Pioneer White Oak Water Coolers

Capacity 5 to 30 Gallons



Manufactured from properly seasoned, kiln dried choice white oak materials.

Bound with galvanized hoops firmly fastened to prevent loosening and slippage.

Exterior varnished. Interior finished smooth and coated with high grade microcrystalline wax.

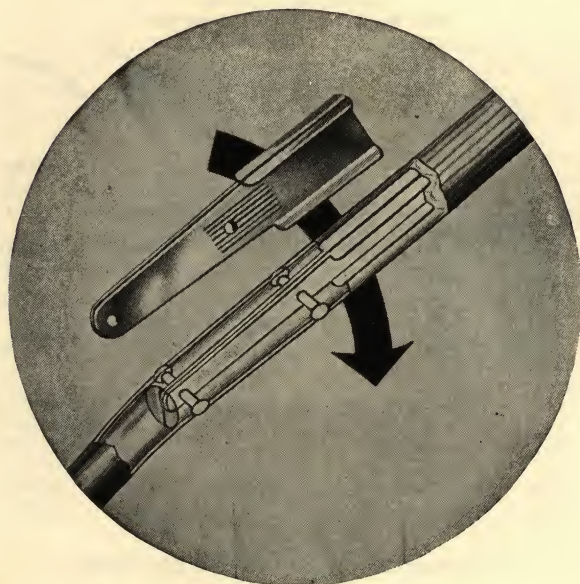
Two piece oak cover.

Fitted with metal push-button faucet.

Cap...gal.	5	10	15	20	30
Wt....lb.	17	27	33	48	62

Our Contractors Equipment Department has a solution for your construction problem.

Wood's I-Beam Shovel Handle Construction



Steel I-Beam Handle Reinforcement

The I-beam handle is standard on Big Fist brand, alloy grade, open and closed back shovels; Wood brand, A grade, open and closed back shovels; Stuart brand, B grade, open and closed back shovels; all Wilson brand, C grade shovels and spades. Not available in Piqua brand, C grade shovels.

The danger section in shovels is the section where the wood must stand the greatest strain from prying and the greatest shock from striking hard materials when shoveling; 65 per cent of all breaks in shovel handles occur in the section just above the socket.

Two steel members have been devised, drilled for rivets, that can easily be inserted in the handle of the shovel. Each member consists of half an I-beam. Laid back-to-back, they combine to form the familiar I-beam pattern that is so important in construction work.

The handle is first slotted to permit the insertion of the two members of the I-beam. Rivet holes are drilled in the handle to coincide with the holes in the I-beam members and in the steel socket.

The two members of the I-beam are inserted in the slot in the handle and are then ready to be inserted in the socket. The socket will enclose the lower part of the two members up to the part where they flange out to form the I-beam. The socket, I-beam members, and handle are then riveted together to form a unit that will remain tight and firm.

No. 2AOCB Wood's Sewer Shovels

Wood Brand—A Grade
Square Point—Closed Back—Rolled Shoulders
D Handle



BLADE: 14-gage high carbon steel, heat treated. Size No. 2, 9x9 inches. Black finish.

HANDLE: XX grade northern white ash. Length, 27 inches, Lift, 18 to 21 inches.

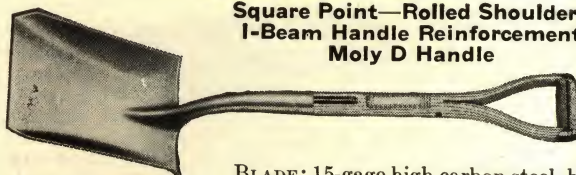
Packed 6 in a bundle. Weight per dozen, 54 pounds.

No. 2AOCB.....per dozen \$40.70
No. VCBXX, Repair Handle.....per dozen 13.80

Wood's Closed Back Shovels

Stuart Brand—B Grade

Square Point—Rolled Shoulders
I-Beam Handle Reinforcement
Moly D Handle



BLADE: 15-gage high carbon steel, heat treated. Black blade, polished socket.

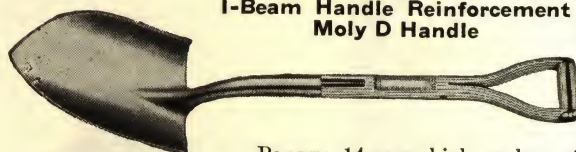
HANDLE: X grade northern white ash. Length, 27 inches. Packed 6 in a bundle.

No.....	2B2CB	2B4CB	2B6CB
Per Dozen.....	\$38.80	40.80	42.80
Size No.....	2	4	6
Blade Size.....inches	9 $\frac{3}{4}$ x12	10 $\frac{1}{4}$ x13	11 $\frac{1}{4}$ x14
Weight per Dozen.....pounds	58	63	70
No. VCBX, Repair Handle.....per dozen	\$13.20		

Wood's Closed Back Shovels

Stuart Brand—B Grade

Round Point—Rolled Shoulders
I-Beam Handle Reinforcement
Moly D Handle



BLADE: 14-gage high carbon steel, heat treated. Black blade, polished socket.

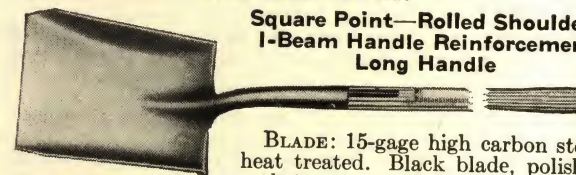
HANDLE: X grade northern white ash. Length, 27 inches. Packed 6 in a bundle.

No.....	3B2CB	3B4CB	3B6CB
Per Dozen.....	\$31.00	33.00	35.00
Size No.....	2	4	6
Blade Size.....inches	9x12 $\frac{1}{2}$	10x13 $\frac{1}{2}$	11x14 $\frac{1}{2}$
Weight per Dozen.....pounds	59	65	69
No. VCBX, Repair Handle.....per dozen	\$12.00		

Wood's Closed Back Shovels

Stuart Brand—B Grade

Square Point—Rolled Shoulders
I-Beam Handle Reinforcement
Long Handle



BLADE: 15-gage high carbon steel, heat treated. Black blade, polished socket.

HANDLE: X grade northern white ash. Length, 48 inches. Packed 6 in a bundle.

No.....	4B2CB	4B4CB	4B6CB
Per Dozen.....	\$38.80	40.80	42.80
Size No.....	2	4	6
Blade Size.....inches	9 $\frac{3}{4}$ x12	10 $\frac{1}{4}$ x13	11 $\frac{1}{4}$ x14
Weight per Dozen.....pounds	62	68	74
No. KCBX, Repair Handle.....per dozen	\$11.10		

Wood's Closed Back Shovels

Stuart Brand—B Grade

Round Point—Rolled Shoulders
I-Beam Handle Reinforcement
Long Handle

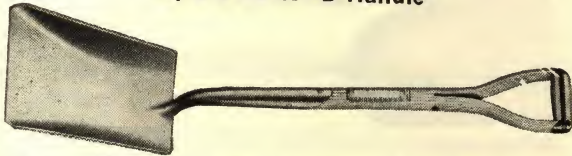


BLADE: 15-gage high carbon steel, heat treated. Black blade, polished socket.

HANDLE: X grade northern white ash. Length, 48 inches. Packed 6 in a bundle.

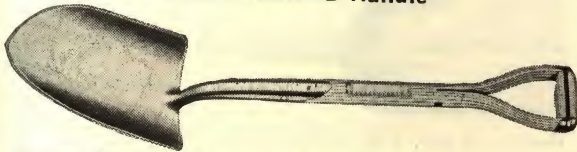
No.....	5B2CB	5B4CB
Per Dozen.....	\$38.80	40.80
Size No.....	2	4
Blade Size.....inches	9x12	9 $\frac{3}{4}$ x13
Weight per Dozen.....pounds	57	63
No. KCBX, Repair Handle.....per dozen	\$11.10	

**No. 2B2SLW Wood's Lightweight
Solid Shank Shovels**
Stuart Brand—B Grade
Square Point—D Handle



BLADE: Made of 16-gage high carbon steel, heat-treated.
Size No. 2, 9 $\frac{3}{4}$ x12 inches.
HANDLE: X grade northern white ash. Length, 27 inches.
Lift, 18 to 21 inches.
Packed 6 in a bundle.
Weight per dozen, 50 pounds.
No. 2B2SLW.....per dozen **\$37.02**
No. VMX, Repair Handle.....per dozen **11.40**

**No. 3B2SLW Wood's Lightweight
Solid Shank Shovels**
Stuart Brand—B Grade
Round Point—D Handle



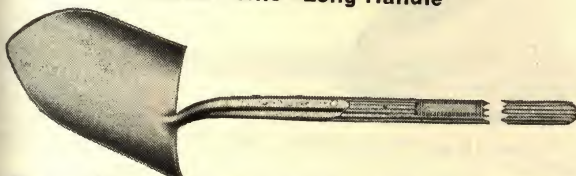
BLADE: Made of 16-gage high carbon steel, heat-treated.
Size No. 2, 9x12 $\frac{1}{2}$ inches.
HANDLE: X grade northern white ash. Length, 27 inches.
Lift, 18 to 21 inches.
Packed 6 in a bundle.
Weight per dozen, 50 pounds.
No. 3B2SLW.....per dozen **\$37.02**
No. VMX, Repair Handle.....per dozen **11.40**

No. 4B2SLW Wood's Lightweight Shovels
Stuart Brand—B Grade
Square Point—Solid Shank—Long Handle



BLADE: 16-gage high carbon steel, heat treated with extended front strap. Size No. 2, 9 $\frac{3}{4}$ x12 inches. Natural blade.
HANDLE: X grade northern white ash. Length, 47 to 51 inches. Lift, 29 to 33 inches.
Packed 6 in a bundle. Weight per dozen, 50 pound.
No. 4B2SLW.....per dozen **\$37.02**
No. LKMX, Repair Handle.....per dozen **9.30**

**No. 5B2SLW Wood's Lightweight
Solid Shank Shovels**
Stuart Brand—B Grade
Round Point—Long Handle



BLADE: Made of 16-gage high carbon steel, heat-treated.
Size No. 2, 9x12 inches.
HANDLE: X grade northern white ash. Length, 47 to 51 inches. Lift, 29 to 33 inches.
Packed 6 in a bundle.
Weight per dozen, 50 pounds.
No. 5B2SLW.....per dozen **\$37.02**
No. LKMX, Repair Handle.....per dozen **11.40**

Wood's Drain Spades
Stuart Brand—B Grade
Closed Back—Riveted Steps
I-Beam Reinforced, Moly D Handle



BLADE: 14-gage high carbon steel, heat treated. Polished socket, black blade.
HANDLE: X grade northern white ash. Length, 27 inches.
Packed 6 in a bundle.

No.....	701BCB	702BCB	703BCB
Per Dozen.....	\$41.30	43.10	44.30
Blade Size.....inches	5 $\frac{3}{4}$ x14	5 $\frac{3}{4}$ x16	5 $\frac{3}{4}$ x18
Weight per Dozen...pounds	54	57	60
No. VCBX, Repair Handle.....per dozen	\$13.20		

Wood's Ditch Spades
Stuart Brand—B Grade
Closed Back—Riveted Steps
I-Beam Handle Reinforcement, Moly D Handle



BLADE: 14-gage high carbon steel, heat treated. Polished socket, black blade.
HANDLE: X grade northern white ash. Length, 27 inches.
Packed 6 in a bundle.

No.....	711BCB	712BCB	713BCB
Per Dozen.....	\$41.30	43.10	44.30
Blade Size.....inches	6x14	6x16	6x18
Weight per Dozen...pounds	54	57	60
No. VCBX, Repair Handle.....per dozen	\$13.20		

No. 6B2CB Wood's Garden Spades
Stuart Brand—Grade B
Closed Back—Rolled Shoulders
I-Beam Reinforcement—D Handle

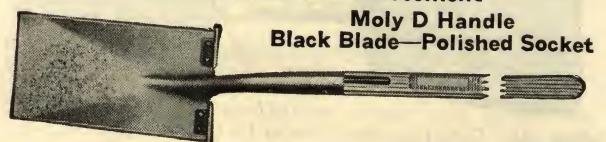


BLADE: 14-gage high carbon steel, heat treated. Size No. 2, 7 $\frac{1}{4}$ x12 inches. Black blade.

HANDLE: Selected X grade northern white ash. Length, 27 inches. Lift, 10 to 12 inches.

Packed 6 in a bundle. Weight per dozen, 60 pounds.
No. 6B2CB.....per dozen **\$38.80**
No. VCBX, Repair Handle.....per dozen **13.20**

No. 7B2CB Wood's Garden Spades
Stuart Brand B Grade
Closed Back—Riveted Steps
I-Beam Handle Reinforcement

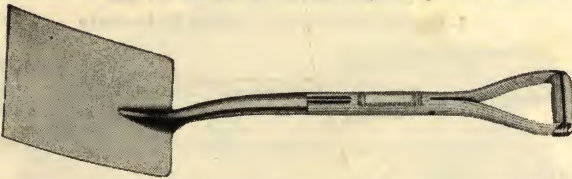


Moly D Handle
Black Blade—Polished Socket
BLADE: 13-gage high carbon steel, heat treated.
HANDLE: X grade northern white ash; length, 48 inches.
Packed $\frac{1}{2}$ dozen per bundle.

Size No.....	2
No. 7B2CB.....per dozen	\$38.80
Blade Size.....inches	7 $\frac{1}{4}$ x12
Weight per Dozen.....pounds	67
No. KCBX Repair Handle.....per dozen	\$11.10

No. 9A2CB Wood's Moulders' Shovels

Wood Brand—A Grade
Closed Back—I-Beam Reinforced, Moly D Handle



BLADE: Blade and socket formed from one-piece of 15-gage high carbon steel heat treated. Size No. 2, 10x12 inch. Polished socket Pol-Vel finish blade.

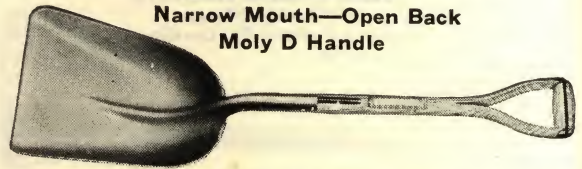
HANDLE: XX grade northern white ash. Length, 27 inches. Lift, 18 to 21 inches.

Packed 6 in a bundle. Weight per dozen, 59 pounds.

No. 9AOCB.....per dozen **\$46.70**
No. VCBXX, Repair Handle.....per dozen **13.80**

Wood's Eastern Pattern Scoops

Piqua Brand—C Grade
Narrow Mouth—Open Back
Moly D Handle



BLADE: Made of 16-gage high carbon steel. Polished socket. Black blade.

HANDLE: No. 1 grade northern ash. Length, 27 inches.

Packed 6 in a bundle.

No.	C82	C84	C86
Per Dozen.....	\$35.20	37.20	39.20
Size No.....	2	4	6
Blade Size.....inches	11x14½	11¾x15½	12¼x16¼
Wt. per Dozen.....pounds	61	65	69
No. V3, Repair Handle.....	per dozen \$14.40		

Wood's Western Pattern Scoops

Piqua Brand—C Grade
Wide Mouth—Open Back
Moly D Handle



BLADE: 16-gage high carbon steel. Polished socket, black blade.

HANDLE: No. 1 grade northern white ash. Length, 27 in.

Packed 6 in a bundle.

No.	C138	C140	C142	C144
Per Dozen.....	\$39.50	40.70	41.90	43.10
Size No.....	8	10	12	14
Blade Size.....inches	14x17	14¾x18	15¼x19	15¾x20
Wt. per Doz.....pounds	73	76	80	88
No. V3, No. 1, Repair Handle.....	per dozen \$14.40			

No. B82RP Wood's Sand and Gravel Scoops

Stuart Brand—B Grade
Open Back—Turned Steps
I-Beam Handle Reinforcement, Moly D Handle



BLADE: 16-gage high carbon steel, heat treated. Size No. 2, 11x15 inches. Black blade, polished socket.

HANDLE: X grade northern white ash. Length, 27 inches. Lift, 21 inches.

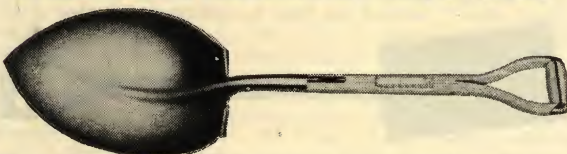
Packed 6 in a bundle.

Weight per dozen, 58 pounds.

No. B82RP.....per dozen **\$38.20**
No. V3X, Repair Handle.....per dozen **16.80**

No. B135D Wood's Breaking Down Scoops

Stuart Brand—B Grade
Diamond Point—Open Back—Turned Steps
I-Beam Handle Reinforcement, Moly D Handle



BLADE: Blade and socket formed from one piece of 15-gage steel, heat treated. Black bowl, polished socket.

HANDLE: X grade northern white ash, sanded and waxed. Length, 27 inches. Lift, 21 inches. Packed 6 in a bundle.

Weight per dozen, 66 pounds.

Size No. 5, 11 ¼x15 ½ inches.

No. B135D.....per dozen **\$41.50**
No. V3X, Repair Handle.....per dozen **16.80**

Wood's Coal Yard Pattern Scoops

Big Fist Brand—Alloy Grade
Wide Mouth—Open Back
I-Beam Handle Reinforcement
Moly D Handle



BLADE: 16-gage alloy steel, heat treated. Polished socket, black blade.

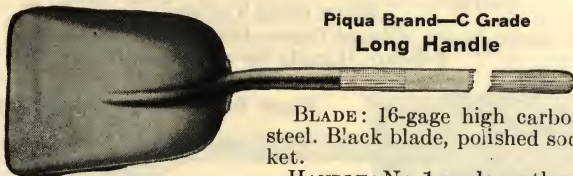
HANDLE: XX grade northern white ash. Length, 27 inches.

Packed 6 in a bundle.

No.	BF138Z	BF140Z
Per Dozen.....	\$53.00	55.00
Blade Size.....inches	14½x17	15x18
Weight per Dozen.....pounds	78	82
No. V3XX, Repair Handle.....	per dozen \$17.40	

Wood's Ash Pit Scoops

Piqua Brand—C Grade
Long Handle



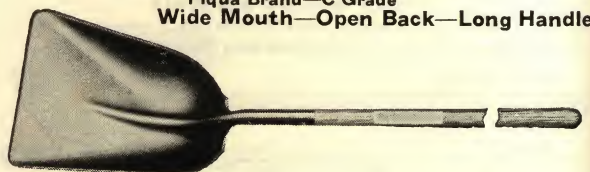
BLADE: 16-gage high carbon steel. Black blade, polished socket.

HANDLE: No. 1 grade northern white ash. Lift, 15 inches. Packed 6 in a bundle.

	6-Ft. Handle	8-Ft. Handle	10-Ft. Handle	12-Ft. Handle
No.	LC84L LC140L	LC84L LC140L	LC84L LC140L	LC84L LC140L
Per Doz. ...	\$51.50	55.50	59.50	63.50
Size No. ...	4	10	4	10
Blade....in.	11¾x 14¾x	11¾x 14¾x	11¾x 14¾x	11¾x 14¾x
	15½ 18	15½ 18	15½ 18	15½ 18
Wt., Doz. lb..	80	90	100	110
Rep. Hdle. No.	6L31	6L31	8L31	10L31
	6L31	8L31	10L31	12L31

Wood's Western Pattern Scoops

Piqua Brand—C Grade
Wide Mouth—Open Back—Long Handle



BLADE: 16-gage high carbon steel. Black finish. Polished socket.

HANDLE: No. 1 grade northern white ash; length, 54 inches. Packed 6 in a bundle.

No.	LC138	LC140	LC142	LC144
Per Dozen.....	\$39.50	40.70	41.90	43.10
Size No.....	8	10	12	14
Blade Size.....inches	14x17	14¾x18	15¼x19	15¾x20
Weight per Doz.....lb.	77	80	84	92
No. K3, Repair Handle.....	per dozen \$11.40			

Telegraph Shovels

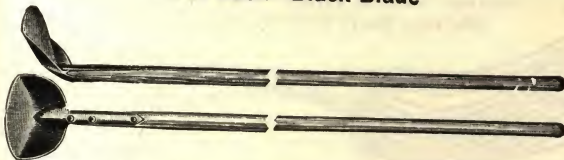
Plain Back, Heavy Handles, Black Blade



Length Handle.....feet	8	10
18-Inch Strap.....per dozen		
24-Inch Strap.....per dozen		
Size Blade.....inches	9¼x11⅞	9¼x11⅞

Telegraph Spoons

Plain Back—Black Blade



Size blade, 9⅝x8¾ inches.

18-Inch Strap

Length Handle.....feet	8	10
Per Dozen.....		
Approximate Weight per Dozen.....pounds	130	142

24-Inch Strap

Length Handle.....feet	8	10
Per Dozen.....		
Approximate Weight per Dozen.....pounds	133	145

Vaughan Post Hole Augers



Tubular iron handle, malleable frame, forged steel blades.

Made in sizes 4, 5, 6, 7, 8 and 9 inches.

Complete with Handle.....per doz.

Hercules Post Hole Diggers



High carbon steel blades, 9 by 6½ inches. Heavy second growth ash handles, 4 feet long. Weight, 120 pounds.

Per Dozen.....

Union Sidewalk Cleaners

4½-Foot Handle



Has blade and shank, or blade, shank, and socket, forged in one solid piece from bar steel with reinforcing bead on each side of blade. Blade is 6 inches deep, 7 inches wide.

Put up 6 in a bundle.

No.	Socket Pattern	Shank Pattern
Each.....	SSC	SC
Weight per Dozen.....pounds	43	42
Repair Handle No.	270	272
Per Dozen.....		

Seymour Post Hole Augers

Iwan Pattern

Made with iron pipe standard and forged steel tee and yoke.

Blades of heavy gage alloy steel, held together at center points by a riveted strap which prevents blades from spreading out of line and losing their efficiency.

Wood cross handle of selected northern ash.

Blades are lacquered light blue and the iron standard bright red.

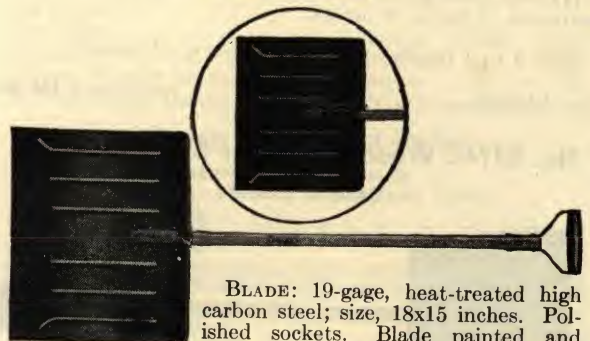


Size In.	Per Dozen	Wt. Lb. per Doz.
2	70
2½	72
3	78
4	82
5	88
6	102
7	106
8	115
9	126
10	135
12	264
14	324
16	348

No. SSS18 Wood's Snow Shovels

Eureka Brand—D Grade

Spring Steel Wide Ribbed Blade
Steel D Handle



BLADE: 19-gage, heat-treated high carbon steel; size, 18x15 inches. Polished sockets. Blade painted and socket lacquered to resist rust.

HANDLE: selected northern hardwood. Approximate length from top of blade, 34½ inches. Sanded and fully finished. Steel D top wood grip.

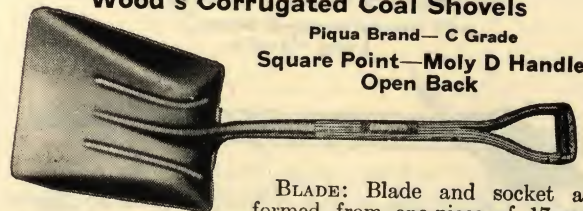
Tied 6 in bundle. Weight per dozen, 66 pounds.

No. SSS18.....per dozen \$24.90

Wood's Corrugated Coal Shovels

Piqua Brand—C Grade

Square Point—Moly D Handle
Open Back

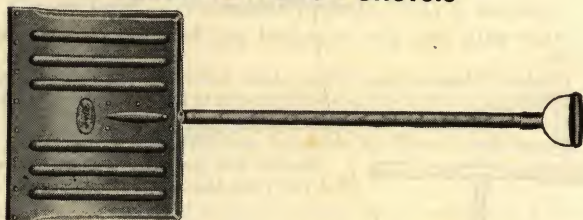


BLADE: Blade and socket are formed from one-piece of 17-gage high carbon steel. Black blade with polished socket.

HANDLE: No. 1 grade northern ash, sanded and waxed. Length, 27 inches. Lift, 21 inches. Packed 6 in a bundle.

No.	C172C	C174C
Per Dozen.....	\$37.20	39.20
Size No.....	2	4
Blade Size.....inches	13½x14½	14½x15½
Weight per Dozen.....pounds	60	66
No. V3 No. 1, Repair Handle.....	per dozen	\$14.40

No. AA418WS Wood's Zephyr Weight Aluminum Snow Shovels



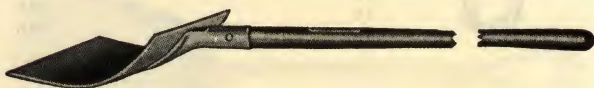
BLADE: Made of aluminum alloy heat treated with edges reinforced with a high carbon steel wear strip. Size, 18x15 inches.

HANDLE: XX grade northern white ash thoroughly sanded and lacquered. Length, 35 inches.

Tied 6 in a bundle. Weight per dozen, 52 pounds.

No. AA418WS.....per dozen **\$34.56**

No. AASP20 Wood's Zephyr Weight Aluminum Snow Pushers Long Handle



BLADE: 10-gage aluminum alloy, heat treated. Size, 20x9 inches.

HANDLE: XX grade northern ash thoroughly sanded and lacquered. Length, 48 inches.

Tied 3 to a bundle. Weight per dozen, 44 pounds.

No. AASP20.....per dozen **\$36.00**

No. E174C Wood's Snow or Street Shovels Eureka Brand—D Grade Steel D Handle



BLADE: 17-gage high carbon steel. Size, 14½x15½ inches. Socket and blade painted.

HANDLE: Hardwood handle thoroughly sanded and lacquered with steel D top wood grip. Length, 38 inches.

Tied 6 in a bundle. Weight per dozen, 75 pounds.

No. E174C.....per dozen **\$28.80**

Wood's Snow Pushers Eureka Brand—D Grade Long Handle



BLADE: High carbon steel. Polished sockets. Blade painted and socket lacquered to resist rust.

HANDLE: Selected northern hardwood, lacquered. Length, 46 inches.

Tied 3 in bundle.

No.....	SP18	SP24
Per Dozen.....	\$24.90	27.60
Blade Size.....inches	18x10¾	24x10¾
Weight per Dozen.....pounds	76	84

Union Coke Forks

17-Inch Diamond Tines—Tapertite Ferrule
30-Inch Bent Handle with Steel D Top



Tines correctly shaped and spaced to handle coke, coal, etc.

	10-Tine	12-Tine	14-Tine
No.....	K10	K12	K14
Per Dozen.....			
Width at Center.....inches	14½	17½	20½
Spacing of Tines.....inches	1¼	1¼	1¼
Weight per Dozen.....pounds	96	108	112
No. 170, Right Repair Handle.....per dozen			

Union Coal Scoop Forks

16-Inch Round Tines—Tapertite Ferrule
30-Inch Bent Handle with Steel D

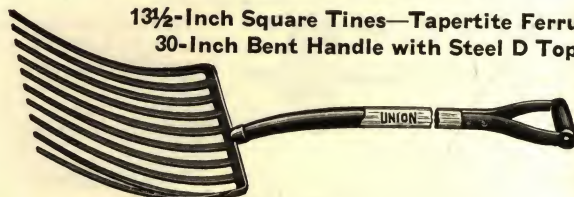


Scoop shape pattern. Packed 6 in a bundle.

	10-Tine	12-Tine	14-Tine
No.....	C10S	C12S	C214S
Per Dozen.....			
Length.....inches	16	16	16
Width.....inches	14	16	14
Space Between Tines.....inches	1¼	1	¾
Weight.....pounds	86	98	100
No. 170, Repair Handle.....per dozen			

Union Stone or Ballast Forks

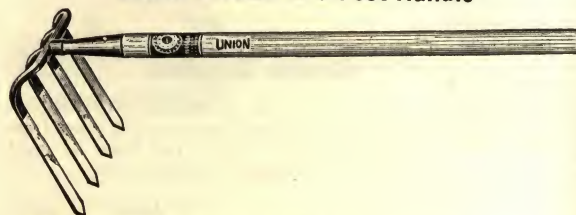
13½-Inch Square Tines—Tapertite Ferrule
30-Inch Bent Handle with Steel D Top



Forged from bar steel. Ash handle.
Packed 6 in a bundle.

	8-Tine	10-Tine	12-Tine	14-Tine
No.....	B8	B100	B210	B212
Per Dozen.....				
Space Bet. Tines....in.	1½	5/8	¾	5/8
Width.....in.	10½	8½	9¾	11½
Wt. per Dozen.....lb.	72	75	78	87
No. 170, Repair Handle.....per dozen				

No. 4SH Union 4-Tine Hop or Stone Hooks 9-Inch Diamond Back Tines Shank Riveted to 5-Foot Handle



Tines, head and shank forged in one piece from heavy steel. Width at points, 8 inches.
Packed 6 in a bundle.

Weight, 63 pounds.
No. 4SH.....per dozen
No. 208, Repair Handle.....per dozen

Sald Caisson Forks



A spading fork. Sharp tines. Penetrates the soil readily, also will break it up as it is turned over. Two weights are offered, heavy pattern for hard clay soil, light pattern for ordinary, well-worked garden soil.

Union quality. Angular-back pattern of tines for extra strength. Four tines, 7 inches long, polished. Ash handles, bent, long or with steel UD tops.

Handle length, 30 inches. Pattern, light.

Tapertite ferrules with caps, 10 inches.

Packed 6 in a bundle.

Sald 7" Weight, 54 pounds.....per doz.
Right repair handle No. 154. Wt. 49 Lb. per doz.

Union 4-Tine Spading Forks

11-Inch Angular Back Tines—Tapertite Ferrule Bent Handle



Packed 6 in a bundle. Northern ash handle.

No.	4-Ft. Handle		30-Inch IDL Steel D Handle	
	*SAL4	†SAH4	*SALD	†SAHD
Per Dozen.....				
Approx. Wt. per Doz..lb.	51	53	54	57
Right Repair Handle No.	152	152	154	154
Per Dozen.....				

*Has light tines. †Has heavy tines.

Union Regular Manure Forks

12½-Inch Oval Tines—Tapertite Ferrule Flex-Beam Handle



Fitted with northern ash handle. Packed 6 in a bundle.

No.	4½-Ft. Long Handle			32-In. IDL Steel D Top Handle		
	4-Tine	5-Tine	6-Tine	4-Tine	5-Tine	6-Tine
Per Dozen.....	A44½	A54½	A64½	A4D	A5D	A6D
Width at Points						
.....in.	9¼	9½	9½	9¼	9½	9½
Wt. per Doz. lb.	45	48	48	42	48	52
No. 102A, 4½-Ft. Right Repair Handle.....per dozen						
No. 120A, 32-In. Right Repair Handle.....per dozen						

No. 4M Union 4-Tine Hooks

9-Inch Oval Tines—5-Foot Handle



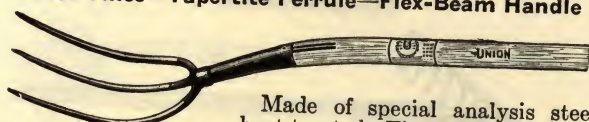
For handling garbage, manure and refuse. Tines, head and shank forged from one piece of steel. Packed 6 in a bundle.

Weight per dozen, 40 pounds.

No. 4M.....per dozen
No. 206, Repair Handle.....per dozen

Union Regular 3-Tine Hay Forks

Oval Tines—Tapertite Ferrule—Flex-Beam Handle



Made of special analysis steel, heat treated. Tines about 12 inches long. Approximate spread at points, 7¼ inches. Handle of seasoned northern ash.

Packed 6 in a bundle.

Handle Length Feet.	No.	With Straight Handle Per Dozen	No.	With Bent Handle Per Dozen	Wt. Lb. per Doz.	Repair Handle		No.	Per Doz.
						Straight	Bent		
4	A34	.....	AB34	.....	33	30A	.....	50A	.....
4½	A34½	.....	AB34½	.....	35	32A	.....	52A	.....
5	A35	.....	AB35	.....	37	34A	.....	54A	.....
5½	A35½	.....	AB35½	.....	39	36A	.....	56A	.....
6	A36	.....	AB36	.....	41	38A	.....	58A	.....

Union Steel Asphalt or Tar Rakes

14 Straight Teeth—Tapertite Ferrule

18-Inch Square Steel Drop Shank—5-Foot Handle



No. A14HD has extra heavy teeth. Northern ash handle.

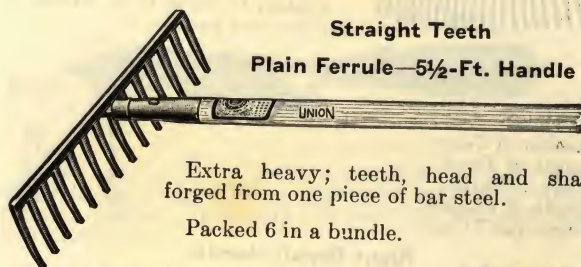
Packed 6 in a bundle.

No.	Per Dozen	A14D	A14HD
Size Head.....	.....inches	15½x4	17x4½
Thickness of Head.....	.....inches	1½	1½
Approx. Weight per Dozen.....pounds	.....	73	82
No. 332, Right Repair Handle.....per dozen	.....	

Union Steel Road Rakes

Straight Teeth

Plain Ferrule—5½-Ft. Handle



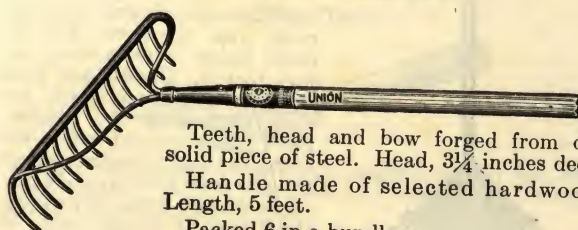
Extra heavy; teeth, head and shank forged from one piece of bar steel.

Packed 6 in a bundle.

No.	Per Dozen	14-Teeth R14	16-Teeth R16
Size Head.....	.....inches	4x15½	4x17¾
Weight per Dozen.....pounds	.....	55	58
No. 330, Repair Handle.....per dozen	.....	

Union Steel Garden Rakes

Curved Teeth—Round Bow



Teeth, head and bow forged from one solid piece of steel. Head, 3¼ inches deep.

Handle made of selected hardwood. Length, 5 feet.

Packed 6 in a bundle.

No.	Per Dozen	14-Teeth B14	16-Teeth B16
Width of Head.....	.....inches	15	17
Weight per Dozen.....pounds	.....	41	44
No. 324, Repair Handle.....per dozen	.....	

Union Quality Curved Tooth Garden Rakes
Straight Handle



Teeth, head and shank forged in one piece from bar steel. Teeth are curved, to penetrate the soil readily. Head is $\frac{5}{16}$ inch thick. Shank riveted to $5\frac{1}{2}$ -foot straight handle. Plain ferrule. Packed 6 in a bundle.

No.	SC14	SC16
Per Dozen. ....	.....	.....
Number of Teeth.	14	16
Width of Head. inches	$14\frac{3}{4}$	17
Depth of Head. inches	$3\frac{1}{4}$	$3\frac{1}{4}$
Weight per Dozen. pounds	38	39
No. 331 Right Repair Handle. per dozen	.....	.....

Union Lawncomb Rakes



For raking grass clippings, leaves and litter from lawns, and for keeping gravel paths and drives clean. Each tooth has a rounded end that will not dig in and injure the roots, and every tooth touches the ground with a slight pressure.

Flat, flexible, spring steel teeth; handle polished and waxed. Olive green enamel finish.

Packed 6 heads in a carton; 6 handles in a bundle.

Complete Tool

No.	LC18	LC24
Per Dozen. ....	.....	.....
Number of Teeth.	24	24
Length of Teeth. in.	8	$9\frac{1}{2}$
Width at Points. in.	18	25
Length of Handle. in.	52	60
Weight per Dozen. lbs.	30	44

Right Repair Handle

No.	333	334
Per Dozen. ....	.....	.....

No. BRF22 Union 22-Tooth Broom-Rakes
14-Inch Flat Teeth—42-Inch Handle



For sweeping leaves and clippings from the lawn. Will remove finest litter without injury to sod. Head made from spring-steel fingers which are thin, yet strong and flexible. Each finger twisted before entering the handle socket. Brace 8 inches from working ends prevents fingers from spreading. Head size at widest part, 19 inches.

Packed 6 heads in a carton; 6 handles tied in bundle.

Approximate weight per dozen, 27 pounds.

Right repair handle No. 341.

No. FR Union Floral Rakes



Useful for working between rows in the flower bed and breaking up the top soil around plants.

Steel part forged from one single piece of high carbon bar steel, properly tempered and sharpened.

Has eight teeth, $2\frac{1}{2}$ inches long. Head, $7\frac{3}{4}$ inches wide. Plain ferrule, cupped. Length of straight handle, 4 feet.

Packed $\frac{1}{2}$ dozen in a bundle. Approximate shipping weight per dozen, 18 pounds.

No. FR.	per dozen	\$.....
No. 220, Right Repair Handle.	per dozen	.....

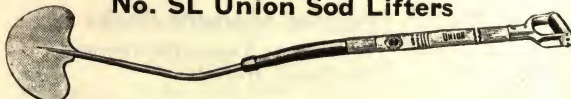
No. TE Union Turf Edgers
9-Inch Blade—Solid Shank—4-Ft. Straight Handle



Blade sharpened from ear to ear. Depth of blade, $4\frac{3}{4}$ inches. Packed 6 in bundle. Wt. per dozen, 32 pounds.

No. TE.	per dozen	.....
No. 278, Repair Handle.	per dozen	.....

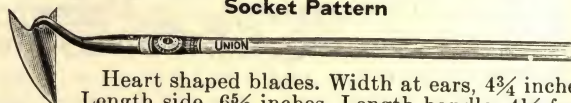
No. SL Union Sod Lifters



Blade, $9 \times 4\frac{3}{4}$ inches. Round steel shank 18 inches long, $\frac{5}{8}$ -inch diam.; 30-inch bent handle with steel D. Packed 6 in bundle. Weight per dozen, about 52 pounds.

No. SL.	per dozen
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No. W7 Union Warren Garden Hoes
Socket Pattern



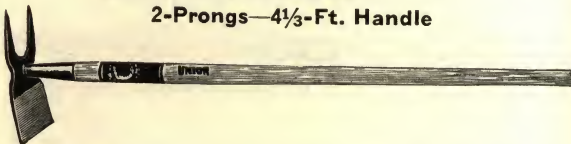
Heart shaped blades. Width at ears, $4\frac{3}{4}$ inches. Length side, $6\frac{5}{8}$ inches. Length handle, $4\frac{1}{3}$ feet. Weight per dozen, 24 pounds.

No. W7.	per dozen	.....
No. 228, Right Repair Handle.	per dozen	.....

No. 2PWF Union Weeding Hoes

Union Quality

2-Prongs— $4\frac{1}{3}$ -Ft. Handle



Blade and shank are a one-piece, solid steel forging, heat treated, taper-rolled to all edges. Beveled to an easy sharp-ener cutting edge.

Blade width, $3\frac{1}{8}$ inches; depth, $9\frac{3}{8}$ inches; maximum thickness, $\frac{1}{4}$ inch.

Fitted with spring pattern northern ash handle.

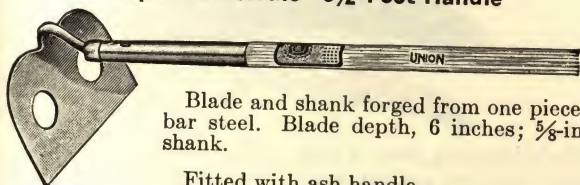
Packed 6 in a bundle.

Weight per dozen, 28 pounds.

No. 2PWF.	per dozen	.....
No. 226, Right Repair Handle.	per dozen	.....

Union Mortar-Mixer Hoes

Perforated Blade—Solid Shank Pattern
Tapertite Ferrule—5½-Foot Handle



Blade and shank forged from one piece of bar steel. Blade depth, 6 inches; ⅝-inch shank.

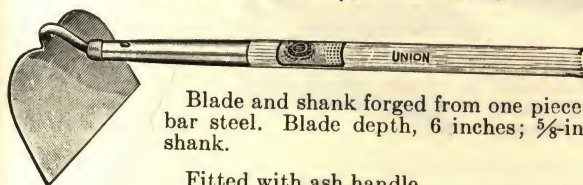
Fitted with ash handle.

Packed 6 in a bundle, blades are covered.

No.....	MM9	MM10
Per Dozen.....		
Blade Width.....inches	9	10
Weight per Dozen.....pounds	50	53
No. 240, Repair Handle.....per dozen		

Union Mortar Hoes

Plain Blade—Solid Shank Pattern
Tapertite Ferrule—5½-Foot Handle



Blade and shank forged from one piece of bar steel. Blade depth, 6 inches; ⅝-inch shank.

Fitted with ash handle.

Packed 6 in a bundle.

No.....	MR9	MR10
Per Dozen.....		
Blade Width.....inches	9	10
Weight per Dozen.....pounds	48	49
No. 240, Repair Handle.....per dozen		

No. RSH Union Railroad Scuffle Hoes



Will quickly and effectively clean out weeds between ties. Frequently used as sidewalk cleaner and floor scraper because blade is set almost parallel with surface to be cleaned.

Has solid shank, plain ferrule. Heavy blade is one-third polished.

Width of blade, 8 inches; depth of blade, 6 inches.

Has 5-foot handle. Repair handle No. 252.

Packed 6 in a bundle; blades not covered.

No. RSH, Approximate Weight 40 Pounds per dozen

No. L5 Union Ladies' Hoes

Shank Pattern—Plain Ferrule
4-Foot Handle



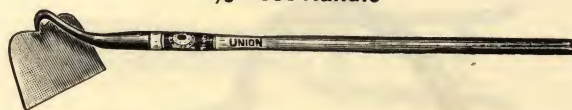
Made of high grade steel, heat treated. Handle of seasoned northern ash.

Packed 6 in a bundle.

No.....	L5
Per Dozen.....	
Width of Blade.....inches	5
Depth of Blade.....inches	3⅞
Weight per Dozen.....pounds	19
No. 220, Right Repair Handle.....per dozen	

Union Regular Field and Garden Hoes

4⅓-Foot Handle



Made of special analysis steel, heat treated. Blade is 4¾ inches deep. Handle of seasoned northern ash.

Packed 6 in a bundle.

No.....	Socket Pattern		Shank Pattern	
	SG6½	SG7	G6½	G7
Per Dozen.....				
Size Blade.....inches	6½	7	6½	7
Right Repair Handle No....	228	228	226	226
Per Dozen.....				
Weight per Dozen.....lb.	28	28	26	26

No. N2½ Union Light Narrow Nursery Hoes



Used in closely planted areas and between plants in rows. Sharpened not only on usual edge but on both sides; can be turned on either side and used for hilling around the smallest plants.

Plain ferrule; spring pattern handle.

Width of blade, 2½ inches; depth of blade, 3⅞ inches; length of handle, 4 feet.

Packed 6 in a bundle. Weight per dozen, 16 pounds.

No. N2½.....per dozen	
No. 220, Right Repair Handle.....per dozen	

No. 211 Forged Steel Garden Trowels



Blade and shank are made of one piece of steel, being forged out in the same way as masons' brick trowels. Blade is finely polished. Rear part and shank are enameled blue. Strong and stout.

Packed 6 in a box.

No.....	211
Per Dozen.....	
Size.....inches	6
Weight per Dozen.....pounds	9½

No. DSGT Union Nurserymen's Socket Trowels Offset Type



Blade and socket forged from highest quality bar steel, heat treated, properly shaped and sharpened. Perfectly balanced and highly polished.

White ash handle.

Width of blade, 3½ inches. Depth of blade, 6¼ inches. Length of handle, 6 inches.

Packed 1 dozen in a carton.

Weight per dozen, 8 pounds.

Right repair handle No. 312.

No. 3 Grass Hooks



With a patented offset.

Swings perfectly in the hand with little muscular effort.

Forged cutlery steel, tempered, ground sharp and whetted.

Varnished maple handle.

Packed 12 in a carton; weight per dozen, 10 pounds.

No. 3.....each

No. UWCS Union Weed Cutters



Serrated edge.

Blade is heat treated and sharpened along both sides.
Blade reversible to put level at top or bottom as desired.

Shaped handle, 30 inches long.

Heat treated channeled braces $\frac{3}{32} \times 1\frac{1}{4}$ inches.

Overall length, 40 inches.

Width of blade, $2\frac{1}{4}$ inches.

Length of blade, 14 inches.

Packed 6 dozen in a bundle.

Weight per dozen, 28 pounds.

No. UWCS.....per dozen

No. 699, Right Repair Handle.....per dozen

No. 2500 Johnson Asparagus Knives or Weeders



Can also be used as a weed cutter and dandelion digger.
Hammer forged, well hardened and tempered to stand rough usage. Round steel, $\frac{1}{16}$ inch. V-shape blade, polished and enameled blue.

Packed $\frac{1}{2}$ dozen in box. Weight per dozen, $8\frac{1}{2}$ pounds

MATERIAL NOT LISTED

We can furnish many items
not listed in this catalog.

Please send us all your inquiries.

Earle Special Bush Scythes

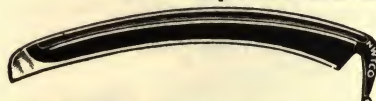


Made from one piece of high carbon steel. Rolled, hammered, hardened and tempered. Ground sharp and polished. Natural oil finish. Fitted with Monitor heel.

Available in lengths, 14-18, 16-20, 18-20, 18-22 and 20-22 inches. Grain 36 inch and longer. Scythes, all one length may be had.

Per Dozen.....\$20.00

Earle Special Weed Scythes



One-piece high carbon steel. Rolled, hammered, hardened and tempered. Ground sharp and polished.

Natural oil finish. Monitor heel.

Available in lengths, 20-24, 22-26, 24-26, 24-28, 26-28, 26-30 and 28-30 inches. Scythes, all one length may be had.

Per Dozen.....\$20.00

No. 1 Seymour Steelclad Scythe Snaths

Loop Bolt Design—For Use with Grass Scythes

Web is fabricated of $\frac{1}{8}$ -inch steel, cold drawn in one solid piece. Will not crack or break and is stronger than iron casting.

Steelclad completely encases butt end of snath in steel. This end is most exposed to end grain splitting and wear.

Fitting is driven on to stick and bolted. Wood of snath is not machined away to accommodate loop bolt, but bolt is held in metal socket which extends beyond end of stick.

Has an inclined plate against which shank of scythe is clamped. Inclination of plate lowers cutting edge of scythe, enabling user to swing snath from a more erect position.

Loop bolt clamps heel of scythe to steel plate and locks it in position when heavy nut and lock washer are tightened against opposite face of web. Plate is not raised from wood, but is in solid contact with machined surface of stick.

Stick is select tough white ash bent to correct form by an improved process.

Weight per dozen, 52 pounds.

No. 1.....per dozen



No. 2 Seymour Steelclad Scythe Snaths

For Bush or Weed Scythes

Loop Bolt Design

Web is fabricated of $\frac{1}{8}$ -inch steel, cold drawn in one piece. Will not crack or break. Stick is select tough white ash. Steelclad completely encases butt end of snath in steel. Fitting is driven on to stick and bolted. Has an inclined plate against which shank of scythe is clamped. This inclination lowers cutting edge.

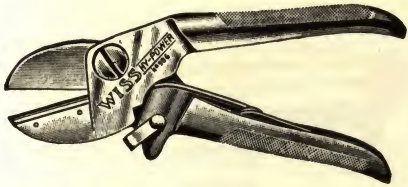
Loop bolt clamps heel of scythe to steel plate and locks it in position. Plate is in solid contact with machined surface of stick.

Weight per dozen, 57 pounds.

No. 2.....per dozen



No. 906-B Wiss Hy-Power Pruners



A small light weight pruner, anvil type, non-pinching grip and convenient thumb lock. The compact size and light weight make it very popular with lady gardeners. Pruner cuts through the wood with a smooth draw-cut action onto the soft bronze anvil, which greatly prolongs the sharpness of the blade. Effortless cutting action. Nickel finish. Length, 6 inches. Packed in individual boxes. 6 to a display carton.

No. 906-B, Weight per Dozen, 7 Pounds. each \$2.25

No. 908 Wiss Hy-Power Pruning Shears

With Pistol Grip Handle



For the professional pruner and for miscellaneous use. The thin, keen knife blade of this pruner cuts through the wood with a draw-cut action on to the soft bronze anvil. Tempered tool steel frame, positive closing latch, coil steel spring. Length, 8 inches.

Approximate weight, 12 ounces.

No. 908. each \$2.75

No. 609 Wiss Pruning Shears



Drop forged, hardened and tempered.

Blade is specially designed and ground to permit easy cutting.

Powerful, strong and durable.

Overall length, 9 inches.

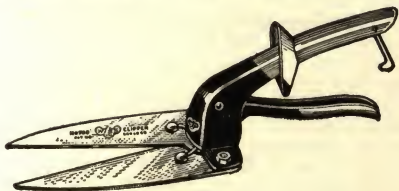
Packed in individual boxes.

One dozen packed in a carton.

Weight per dozen, 10¼ pounds.

No. 609. each \$2.75

No. 700 Wiss-Clipper Grass Shears



Accurately adjusted for perfect cutting from heel to points. Bright electro-plated rust-resistant blades. Closing latch. Red and black baked enamel handles. Easily disassembled for repairs. Will cut smoothly without tiring the wrist. Handles are contoured for comfort and fitted with grip guard to prevent slipping.

Overall length, 12 inches, length of cut 5 inches. Individually boxed, 3 doz. in a carton. Weight per doz., 12 Lb. No. 700. each \$1.95

No. 5600 Wiss Grass Shears



Drop-forged from cutlery steel, hardened and tempered. Hollow ground, polished blades.

Length overall, 12 inches. Length of cut, 5 inches.

Special tension bolt insures smooth, easy cutting.

Comfortably shaped handles with rounded edges. Handles finished in red.

Packed 6 in a box.

Weight per dozen, 12 pounds.

No. 5600. each \$2.50

Seymour Smith Tiffany Pruners

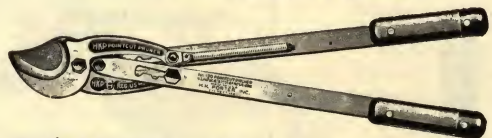


A lightweight balanced tool for orchard and general service. Cuts 1½-inch limbs. Blade efficient to extreme tip. Tempered alloy steel forging. Shaft runs through shaped hardwood handle and is riveted at end.

Has dual cutting action for close, clean, quick-healing cuts. Branches and twigs, even frozen wood, will not slip from its blades. Packed 12 in a carton.

No.	520	525	530
Per Dozen.	20	25	30
Length. inches	31	37	42
Weight per Dozen. pounds			

Porter Pointcut Pruners



For cutting suckers on the point, with minimum blade opening, and all range pruning and where cuts less than 1½-inch predominate. For fruit, nursery and horticultural uses. Capacity in standing green wood, 1¼ inches.

Will cut close and clean without slightest damage to bark. Cutting edges of blades can be placed close against main branch, and at the best place for pruning. Both blades have sharp cutting edges. Upper blade is equipped with spur which supports lower blade and resists the tendency to cross edges. Patented slide shift power slot instantly places at the user's disposal great extra power in the middle of a difficult cut by the simple shift from one notch of power slot to next. Cutting blades are of drop-forged tool steel; handles are medium carbon steel heat-treated to a spring temper. Screws are of heat-treated alloy steel. Handle grips are of wood. All parts are interchangeable.

No.	120P	124P
Each.	\$8.40	8.70
Length. inches	20	24
Weight. pounds	2¾	3

Parts		
Cutter-Head, Complete.	each	\$6.60 \$6.60
Curved Blade.	each	3.00 3.00
Straight Blade.	each	2.85 2.85
Blade Pivot Bolt, Washer, Lock Washer and Nut.	each	.28 .28
Spring Assembly.	each	.38 .38
Power Slot Bolt and Nut.	each	.28 .28
Handles, Complete.	per pair	3.50 3.50
Handle with Grip.	each	1.64 1.64
Handle Center Bolt and Nut.	each	.28 .28
Star Washers.	per dozen	.31 .31
Sub Washers.	per dozen	.31 .31

No. 512 SKIL Trimmers

1/4-Hp. Universal Motor, A.C. and D.C.—For 110 Volts, 60 Cycles



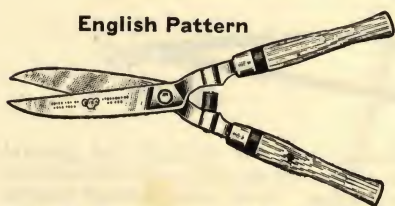
Has 12-inch cutter blade, adapter for 3/8-inch pipe extension handle, and 6-foot rubber covered cord. Steel worm and bronze wheel gears running in grease sealed chamber. Single-pole toggle switch. Overall length, 23 inches. No. 512, Weight, 6 Pounds.....each **\$41.25**

Rubber-Covered Extension Cords

A 2-conductor, cord with unbreakable connector.			
No.	218	219	224
Each.....	\$5.00	8.65	12.95
Size No. of Cord.....	18	18	16
Length.....feet	50	100	100

Wiss Shockproof Hedge Shears

English Pattern



Fitted with an improved rubber shock absorber which reduces arm fatigue. Blades are full forged, hollow ground, highly polished and hardened and tempered; have a notch and

cutter for heavy duty. Handles of non-splitting maple riveted through nickel-plated steel ferrules and tang. Furnished without notch when specified. Packed 6 in a carton.

No.	8 1/2-E	9 1/2-E
Each.....	\$4.75	\$5.00
Length Blade.....inches	8 1/2	9 1/2
Weight.....pounds	2 3/8	2 1/2

No. 6 1/2-L Wiss L Pattern Hedge Shears



A lightweight, easily handled pair of hedge shears.

Has drop forged, hardened and tempered blades. Blades have serrated edges to prevent slipping.

Length of blade, 6 1/2 inches.

Packed 6 pairs in a carton.

Approximate weight, each, 1 1/2 pounds.

Weight per dozen, 16 1/2 pounds.

No. 6 1/2-L.....per pair **\$2.95**

Porter Forester Heavy Duty Brush Cutters



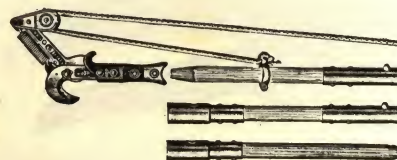
Sharp cutting blades of high quality alloy, heat-treated alloy steel for clean, close cut. Spring steel handles; wood grips; slide shift 3-power slot provides extra power in middle of a difficult cut.

No. 2FO. For low, heavy pruning; roadside clearing.

No. 3FO. For cutting brush and for general work on stands of all ages up to 2-inch green wood.

No.	2FO	3FO
Each.....	\$9.40	11.20
Length.....inches	27	34
Capacity Cut.....inches	1 1/2	2
Weight.....pounds	4 3/8	7 1/4

Porter Pole Pruners



Lightweight head has two sharp blades of high quality alloy tool steel forgings. Cuts close without damage to bark. Thin head permits cutting in narrow crotches. Pressed metal brackets reduce weight. Light strong pole.

Available with solid or jointed poles. Jointed poles have close-fitting sturdy locking sleeves, enabling user to rig length desired. Sleeves provide reinforcement. Positive locking arrangement leaves no projection to catch and unlock the joint while in use.

Jointed poles are made up of 6 or 8-foot tops, 4, 6, or 8-foot butts, and 4 or 6-foot mid-sections, as required.

Cutting capacity, 1-inch green wood.

Complete with Solid Poles			Complete with 2-Section Jointed Poles			Complete with 3-Section Jointed Poles		
No.	Each	Lgth. Ft.	No.	Each	Lgth. Ft.	No.	Each	Lgth. Ft.
OP-6	\$10.20	6	OPJ2-10	\$13.90	10	.....	.....	.....
OP-8	10.80	8	OPJ2-12	14.70	12	.....	.....	.....
OP-10	11.40	10	OPJ2-14	15.50	14	OPJ3-14	\$17.10	14
OP-12	12.00	12	OPJ2-16	16.30	16	OPJ3-16	17.90	16
No. OP, Cutterhead Only.....			.....			each \$7.60		

Straight Head—Long Arm without Pulley

R- 6	\$10.00	6	RJ2-10	\$13.70	10	.....	.....	.....
R- 8	10.60	8	RJ2-12	14.50	12	.....	.....	.....
R-10	11.20	10	RJ2-14	15.30	14	RJ3-14	\$16.90	14
R-12	11.80	12	RJ2-16	16.10	16	RJ3-16	17.70	16
No. R, Cutterhead Only.....			.....			each \$7.40		

Straight Head—Long Arm with Pulley

RP- 6	\$10.20	6	RPJ2-10	\$13.90	10	.....	.....	.....
RP- 8	10.80	8	RPJ2-12	14.70	12	.....	.....	.....
RP-10	11.40	10	RPJ2-14	15.50	14	RPJ3-14	\$17.10	14
RP-12	12.00	12	RPJ2-16	16.30	16	RPJ3-16	17.90	16
No. RP, Cutterhead Only.....			.....			each \$7.60		

Solid Poles Only

No.....	P-6	P-8	P-10	P-12
Each.....	\$1.90	2.40	2.90	3.40
Length.....feet	6	8	10	12

Sections Only for Jointed Poles

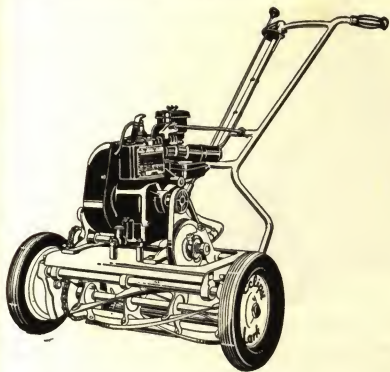
Top Sections			
No.....	TS-4	TS-6	TS-8
Each.....	\$2.75	3.30	3.90
Length.....feet	4	6	8

Mid Sections			
No.....	MS-4	MS-6	MS-8
Each.....	\$3.20	3.80	4.40
Length.....feet	4	6	8

Bottom Sections			
No.....	BS-4	BS-6	BS-8
Each.....	\$2.25	2.90	3.40
Length.....feet	4	6	8

Eclipse Lark 18-Inch Power Lawn Mowers

Precision built; 18-inch cutting width. Quiet Briggs & Stratton 4-cycle engine; 1 hp. at 2700 rpm.; V-belt drive.



Fingertip throttle and clutch controls. Floating natural grip, adjustable handle.

Spring-action positive clutch. Bronze oilite bearings on clutch shaft.

Five hardened steel blades with keenly ground edges. Molybdenum steel, hardened lower cutter blade.

Diamond roller chain with hardened steel-cut sprockets for long service.

Reel is 6-inch diameter, with four heavy spiders, $\frac{3}{4}$ -inch shaft with adjustable Timken roller bearings.

Height of cut: $\frac{1}{2}$ to $1\frac{1}{2}$ inches.

Speed, 1 to 3 mph. Full throttle and governor control; pull-rope starter. Lubrication is by convenient oil cups.

Gray iron wheels, power-driven ratchet type for differential action. Sturdy rib tread air cushion tires.

Seasoned maple roller, 3 sections for easy maneuvering.

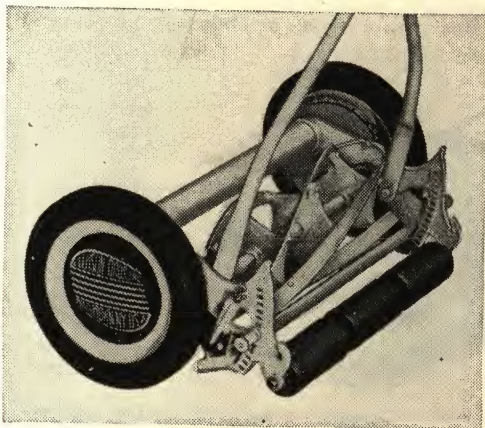
Weather-resistant yellow enamel finish with black trim.

Power-driven sharpening device is optional equipment.

Fuel capacity, approximately 3 hours of operation.

Net weight, 108 pounds. Shipping weight, 118 pounds.

Clemson Lawn Mowers



Main frame is made of side pieces that support wheels plus tie tube across front. Box-frame construction has bed-knife bolted permanently to main frame forming a rigid rectangular truss. All models are furnished with roller bearing wheels and have ball bearing reels, riding in stressed side frames with automatic take-up of bearing wear. Mower adjusts from $\frac{1}{2}$ -inch to over 2-inch grass height. Fly-knives are made of steel, forged to exact shape before assembly, welded to spiders (reel frames) and ground. Three-piece rollers are made of oil-impregnated hard maple. Shear adjustment is by two wing-screws with fine threads for precision setting. Adjustment is locked by attached wrench.

Handle is attached well back of wheel axis and below it which eliminates bobbing. Baked enamel finish.

No.	16	17	E-17
Each	\$24.95	28.95	33.95
Length Cut. inches	15	17	17
Shipping Weight. pounds	29	31	35

Eclipse Rocket Power Lawn Mowers



For easy maintenance of small lawn areas.

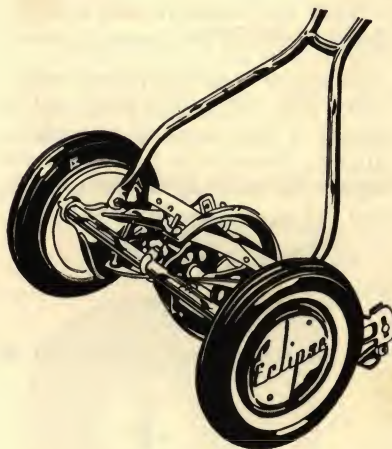
Equipped with 4-cycle Briggs & Stratton motor, quiet V-belt drive, rubber tires, Timken bearing reel.

Eclipse natural grip handle.

Full 20-inch cut.

Each.

Model L Eclipse De Luxe Lawn Mowers



Has finger-tip adjustment, five blades, six-inch diameter reel, precision ground ball bearings, solid steel wheel axle. Valveless puncture-proof rubber tires.

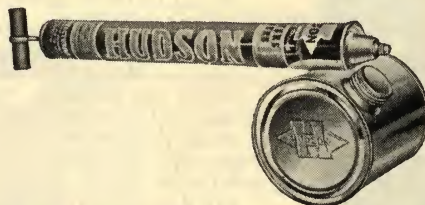
Rubber covered roller rotates on tapered bearings.

All steel handle, rubber grip.

Adjustable height of cut, $\frac{3}{4}$ to $1\frac{1}{2}$ inches.

Cutting Width. inches	16	18
Model L. each	....	....

No. 431 Hudson Comet Sprayers

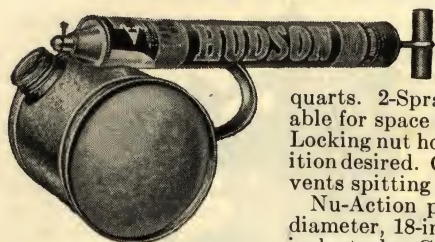


Adapted for fly oils, repellents, stock dips, agricultural insecticides. Used in dairy barn, poultry house, hog pen and garden. For use in restaurants, hotels, apartments, etc.

Continuous Nu-Action pump, $1\frac{1}{2}$ -inch diameter, 13 inches overall; 13-inch stroke. Brass syphon tube and nozzle are removable for cleaning. Tank is $4\frac{1}{4}$ inches in diameter, $4\frac{1}{2}$ inches long, 1-quart capacity. Sturdily made, lock seamed and soldered throughout. Large filler cap.

No. 431, Std. Pkg., 12; Ship. Wt. $13\frac{1}{2}$ Lb. each \$1.10

No. 436 Hudson Cardinal Sprayers



For fly oils, repellents, disinfectants.

Capacity, 3 quarts. 2-Spray nozzle adjustable for space or surface spray. Locking nut holds nozzle in position desired. Construction prevents spitting or streaming.

Nu-Action pump, 1½ inches diameter, 18-inches overall, 13-inch stroke. Cone tip anchored

to tank. Connection reinforced by handle grip and brace combined. Handle reinforced.

Heavy galvanized steel tank, 5½ inches diameter, 6¾ inches long. Double seamed and thoroughly soldered. Large screw cap for convenience in filling.

Standard package, 2 in carton. Shipping weight, 5 pounds. No. 436.....each \$2.30

No. 341 Hudson Climax Junior Sprayers

Capacity, 2¾ Gallons
Simplex Inner-Seal Top



Used for small jobs.

Wide opening permits easy filling.

Tank has seams riveted and soldered. Tested at 100 pounds pressure.

Equipped with 7¼x16-inch galvanized tank, 1¾x14-inch pump and 24 inches of high pressure spray hose. Hudson Roto-Valve locks open for continuous spraying; 2-foot extension rod and an all-purpose nozzle.

Packed 1 in a carton.

Weight, 9½ pounds.

No. 341, Galvanized.....each \$11.20

No. 310G Hudson Perfection Sprayers

Capacity, 4 Gallons—Simplex Inner-Seal Top



Compressed air sprayer for all spraying purposes on farms, in gardens and industry. Galvanized tank, 7½x22½ inches; top opening, 3¾x4¾ inches. Seams welded top, bottom and side. Tested to 100-lb. pressure.

Pump seamless tubing; seals into tank as separate unit. Cover pressure-sealed from within: the higher the pressure, the tighter the seal; cover will not open until all pressure is exhausted, yet is quickly locked or released. With 30 inches of ¾-inch hose; 2-foot extension; all-angle nozzle for fog to solid stream sprays; Hudson Roto-Valve; Perfection shut-off; locks open for continuous discharge.

Packed 1 in carton. Shipping weight, 11 pounds.

No. 310G.....each \$13.20

Parkerette Lawn Sweepers



For sweeping sticks, heavy cut grass, leaves, etc.

Cross brace keeps sweeper rigid even under heavy loads. Removable or stationary basket. Lift-out basket can be easily removed and replaced. Can also be dumped end-over-end in conventional manner.

Heavy bassine fiber, 2 dual brushes are steel-backed for heavy-duty. Diameter, 9 inches. Brushes are replaceable. Brush reel on ball bearings.

Adjustable sweeping height, 0 to 2½ inches. Hood clearance is adjustable.

Plain wheels and drive gear bearings. Single, solid type tires.

Two rubber basket rollers are used, one at each rear corner. Will not come loose from basket.

No. PA5220, 20-Inch Width Parkerette. For easy maneuverability around flower beds and narrow walks. Basket capacity, 4 bushels. Packed in two cartons. Net weight, 44 pounds; shipping weight, 48 pounds.

No. PA5228, 28-Inch Width Parkerette. Basket capacity, 5½ bushels. Packed in two cartons. Net weight, 48 pounds; shipping weight, 54 pounds.

No. HS-234 Canvas Kid Grass Catchers

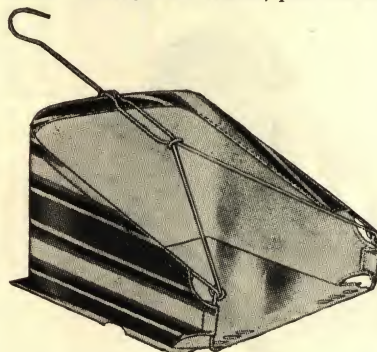
Square back, painted stripe or solid color canvas duck sides. Heavy wire frame, painted steel bottom.

With two non-slip hooks, balanced carrying handle. Raised front edge keeps grass clippings from spilling out.

Fits all hand mowers from 12 through 18-inch widths.

Approximate weight per dozen, 25 pounds.

No. HS-234 ..per doz.



Dunham Water-Weight Lawn Rollers

Steel Drums

For use with water or sand. Weighs 50 per cent more when filled with sand than when filled with water.

With plain bearings.

Painted green on body and ends; red handle.



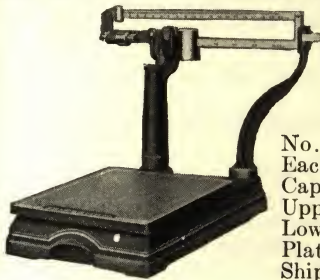
No.	2	4	7
Each.....	\$18.00	21.75	27.50
Diameter.....inches	14	18	24
Length.....inches	24	24	24
Approx. Wt., Empty.....pounds	55	70	100
Approx. Wt., Water Filled.....pounds	165	230	400

No. 11500 Fairbanks-Morse Postal and Package Scales

Full Capacity Beam

Designed for accurately weighing packages for parcel post and express shipments. Arrow-tip brass beam, both bars notched for setting poises.

Full capacity beam insures speed in weighing. Gray crackle enamel finish.



No.	11500
Each .....	.....
Capacity	120 Lb.x1 Oz.
Upper Beam...	20 Lb.x1 Oz.
Lower Beam...	100 Lb.x1 Lb.
Platform...inches	12x15
Ship. Wt..pounds	57

No. 1216 Fairbanks-Morse Platform Counter Scales

Suspended Platform and Short Iron Pillar



Adapted for weighing valuable commodities, such as fine silks and other fabrics, bullion, valuable castings, and similar products.

Has single, brass arrow-tip beam, notched top with brass sliding poise. Weight, 3 pounds x 1/4 ounce. Capacity, 300 pounds x 1/4 ounce.

Platform, 13 1/2 x 19 1/2 in. Height overall, 28 inches.

Durable finish. Shipping weight, 116 pounds.

No. 1216.....each

Fairbanks-Morse Portable Platform Scales



No. 1124 has all metal pillar, cap and platform and is furnished with single metal alloy arrow tip beam with center indicating poise.

Larger sizes have wood pillar, cap and platform; pillar is braced with iron rods.

Full capacity beam may be furnished on larger sizes on special order.

No. 1102 Without Wheels

No.	1102
Capacity	pounds 2000
Beam	pounds 100x1 1/2
Size Platform	inches 25x32

With Wheels

No.	1118	1124
Capacity	pounds 2000	1000
Beam	pounds 100x1 1/2	100x1 1/2
Size Platform	inches 25x32	18x27

No. 1150 With Bag Rack and Wheels

Furnished with iron bag rack rigidly fastened to platform.

No.	1150
Capacity	pounds 2000
Beam	pounds 100x1 1/2
Size Platform	inches 25x32

NOTE. In the platform sizes, the first figure is the dimension parallel with the beam.

Hanson Viking Scales

Accurate, straight spring balances used in cotton fields, farms, warehouses, ice trucks, etc. Made in six capacities to take care of innumerable weighing requirements.

Case is made of two tubular steel telescoping members. Load head is doubly reinforced and electrically welded to the outer member.

Tempered steel is used for the spring which is heat treated and triple tested for accuracy.

Solid brass dial is recessed for protection and has figures and graduations deeply etched. An adjusting screw at the bottom of the scale allows the indicator to be set at zero to balance a container. A red indicator makes recorded weights easily read. Equipped with hook.

Complies with specifications, tolerances and regulations for commercial weighing devices as required by the National Bureau of Standards.



No. 895 Durable olive green enamel finish. Packed 12 in counter display box; 144 per carton.



No. 8920

Heavy Usage Models

No.	Each	Cap. Lb.	Graduated Lb.	Dimension Inches	Net Wt. Lb. Each	Case No. in.	Ship. Wt. Lb.
892	\$3.25	25	1/2	1 1/2 x 1 1/4 x 9 1/4	7 1/8	12	12
895	3.25	50	1	1 1/2 x 1 1/4 x 9 1/4	7 1/8	12	12
8910	6.00	100	1	3 1/4 x 2 1/8 x 19	5 1/8	6	34
8916	6.00	160	1	3 1/4 x 2 1/8 x 19	5 1/8	6	34
8920	6.00	200	2	3 1/4 x 2 1/8 x 19	5 1/8	6	34
8930	9.00	300	5	3 1/4 x 2 1/8 x 19	5 1/8	6	34

No. 890 Junior Model

A light spring balance constructed on same principle as heavy usage models. For home use, mechanics, fishermen, etc. Not legal for trade. Strong steel case; tempered spring. tested for accuracy.

890	\$.69	25	1	7/8 x 3/4 x 6 1/2	1/8	144	25
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No. 1515 Hanson Parcel Post Scales

Capacity, 50 Pounds by Ounces

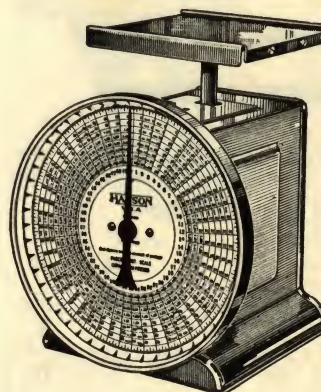
Computes postage for merchandise for all postal zones within its capacity.

Dial is glass covered. Red and black figures on white background. Red figures indicating postage, black figures, weight.

Diameter of dial, 8 inches. Size of scale, 8 x 7 1/2 x 10 inches. Platform square, 7 inches.

Packed 1 in a corrugated carton; weight, 9 pounds.

No. 1515.....each \$10.00



No. 2000 Hanson Household Scales

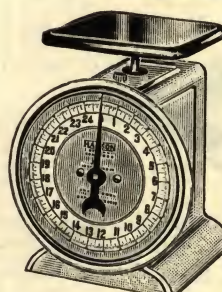
Capacity, 25 Pounds by 1 Ounce

A durable and rugged scale for accurate weighing service.

Precision calibrated springs. Easy to read 6 1/2-inch enameled airplane dial. Has adjustment nut to balance a scoop or container.

Platform is black enamel, 5 1/2 inches square.

Dimensions, 9 3/4 x 6 1/4 x 6 1/2 inches White finish.



Packed 8 in a case; shipping weight, 34 pounds.

No. 2000.....each \$4.75

No. 201 K&J Railroad and Warehouse Trucks

Full Ironed



Medium duty; well constructed; amply strong for all ordinary uses.

Straight slats. Seasoned, clear, hardwood frame; bent handles; cross members mortised and bolted.

Roller bearing wheel, 8-inch diam.

No.	1	2	3
Length Handles...in.	48	52	56
Greatest Width...in.	20 $\frac{5}{8}$	20 $\frac{5}{8}$	24 $\frac{3}{4}$
Nose Length...in.	5	5	5
No. of Slats.....	3	4	4
Approx. Wt.....lb.	54	64	88

Specify semi-steel wheel by suffix 21, as No. 201-2-21; mold-on rubber by suffix 25, as No. 201-2-25.

No. 207 K & J Trucks

Steam bent handles, curved cross slats. Wood varnished. Western Pattern Medium Duty



Full ironed. Beveled steel dash. Metal parts black.

Semi-Steel Wheel

No.	Roller Brg.	Hdle. Lgth. In.	Width In.	Dash Lgth. In.	No. Cross Slats	Ap. prox. Wt. Lb.
207-1-21	8	48	20 $\frac{5}{8}$	5	3	54
207-2-21	8	52	20 $\frac{5}{8}$	5	4	64
207-3-21	8	56	24 $\frac{3}{4}$	5	4	88

Mold-On Rubber Wheel

207-1-25	8	48	20 $\frac{5}{8}$	5	3	54
207-2-25	8	52	20 $\frac{5}{8}$	5	4	64
207-3-25	8	56	24 $\frac{3}{4}$	5	4	88

Extra Heavy Duty—All Steel Frame

Forged steel dash. Frame green. Wheels and axle black.

Semi-Steel Wheel

207-4S-21 11	58 $\frac{1}{2}$	24	6	4	145
207-4S-25 11	58 $\frac{1}{2}$	24	6	4	140

Mold-On Rubber Wheel

No. 228 K&J Skids



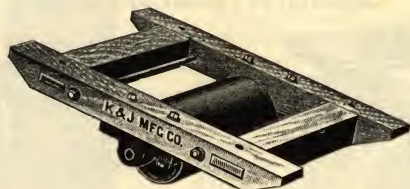
Made from selected, straight grained timber well seasoned, with the ends of side rails protected by steel tips.

Skids can also be furnished in special lengths.

Varnished, with iron parts black.

Length.....feet	6	7	8	10	12
Each.....feet	16 $\frac{1}{2}$	16 $\frac{1}{2}$	16 $\frac{1}{2}$	16 $\frac{1}{2}$	16 $\frac{1}{2}$
Width.....inches	16 $\frac{1}{2}$	16 $\frac{1}{2}$	16 $\frac{1}{2}$	16 $\frac{1}{2}$	16 $\frac{1}{2}$
No. of Cross Bars..	2	2	2	3	4
Side Rail.....inches	1 $\frac{3}{4}$ x3 $\frac{1}{2}$	1 $\frac{3}{4}$ x3 $\frac{3}{4}$	1 $\frac{3}{4}$ x3 $\frac{3}{4}$	1 $\frac{3}{4}$ x4	1 $\frac{3}{4}$ x4 $\frac{1}{4}$
Approx. Wt.....lb.	40	50	55	65	79

No. 282 K & J Dollies



These dollies are made with flat face cast iron roller. Can be used either as a truck or inverted and used as a roller.

No.	Length, In.	Width, In.	Height, In.	Appr. Wt. Lbs.
1	24	17 $\frac{1}{4}$	7	51
2	24	20	7	61

Prices upon application.

Colson Warehouse Hand Trucks

2-Wheel Type



For kegs, barrels or drums. Also handy for conveying other loads.

Heavy 1-inch tubular frame to which are welded curved steel cross slats, toe plate and tubular handle.

Has 5-inch wheels with Durex bearing bushings.

Height overall, 45 inches. Width overall, 16 $\frac{1}{2}$ inches.

Sage green finish.

Net weight, 15 pounds.

No. 6061-43, Cushion Tread.....each	\$8.60
No. 6061-53, Hard Tread.....each	8.60

No. 13B K & J Warehouse Platform Trucks

Capacity, 4000 Pounds



For warehouse, loading dock, shop use.

Frame is 1 $\frac{3}{4}$ x3 $\frac{1}{2}$ -inch oak, mortised, bolted and steel braced. Oak deck.

Load wheels, 12x2 $\frac{1}{2}$ inches.

Caster wheels, 8x2 $\frac{1}{2}$ in.

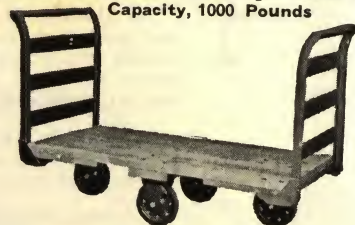
All bearings pressure lubricated. Steel pipe push rack. Finish: metal parts, black; wood parts clear varnished. Platform height, 14 inches; overall height, 31 $\frac{3}{4}$ inches.

Roller Bearing, Semi-Steel Wheels			Roller Bearing, Mold-On Rubber Wheels		
No.	Size Platform Inches	Approx. Wt. Lb.	No.	Size Platform Inches	Approx. Wt. Lb.
13B 1A-21	24x48	180	13B 1A-25	24x48	170
13B 1-21	30x60	200	13B 1-25	30x60	190
13B 2-21	36x60	220	13B 2-25	36x60	210
13B 3-21	36x72	240	13B 3-25	36x72	230

K & J Medium Duty Platform Trucks

Hardwood Deck

Two Rigid Casters at Center; One Rigid Caster Each End Capacity, 1000 Pounds



22x40x $\frac{7}{8}$ -Inch Platform Size

Platform Height, 8 $\frac{1}{4}$ Inches—Overall Height, 34 Inches

No.		WHEEL		Approx. Wt. Lb.
Push Rack One End	Push Rack Each End	Diam. In.	Type	
1A-13	2A-13	5	Plain Bearing, Solid Rubber....	100
1A-21	2A-21	5	Roller Bearing, Semi-Steel.....	100
1A-34	2A-34	5	Ball Brg., Demount Rubber....	100
1A-44	2A-44	5	Ann. Brg., Demount Rubber....	100

24x48x1 $\frac{3}{8}$ -Inch Platform Size

Platform Height, 11 $\frac{1}{4}$ Inches—Overall Height, 37 Inches

3A 1-21	4A 1-21	8	Roller Bearing, Semi-Steel.....	165
3A 1-34	4A 1-34	8	Ball Brg., Demount Rubber....	140
3A 1-44	4A 1-44	8	Ann. Brg. Demount Rubber....	145
3A 1-25	4A 1-25	8	Roller Brg., Mold-On Rubber...	160

27x54x1 $\frac{3}{8}$ -Inch Platform Size

Platform Height, 11 $\frac{1}{4}$ Inches—Overall Height, 37 Inches

3A 2-21	4A 2-21	8	Roller Bearing, Semi-Steel.....	180
3A 2-34	4A 2-34	8	Ball Brg., Demount Rubber....	155
3A 2-44	4A 2-44	8	Ann. Brg., Demount Rubber....	160
3A 2-25	4A 2-25	8	Roller Brg., Mold-On Rubber...	175

30x60x1 $\frac{3}{8}$ -Inch Platform Size

Platform Height, 11 $\frac{1}{4}$ Inches—Overall Height, 37 Inches

3A 3-21	4A 3-21	8	Roller Bearing, Semi-Steel.....	195
3A 3-44	4A 3-44	8	Ann. Brg., Demount Rubber....	175
3A 3-25	4A 3-25	8	Roller Brg., Mold-On Rubber...	190

Symbols Used on Darnell Models

CI
DN
K
H

Semi-Steel Tread
Neoprene (Soft Rubber) Tread
Rubber Fiber Tread
Hard Rubber Tread

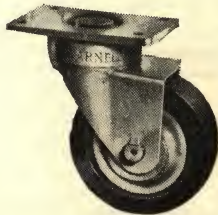
R
T
X
Y

Roller
Hyatt Type
Double Ball
Oil-Less
Hyatt Type and Hardened and Ground Spanner
Bushing
Hyatt Type and Hardened and Ground Spanner
Bushing with Long Hub

S
W

Miscellaneous
Stationary Model Caster
Wheel Only

Series 60 Darnell Light Medium Duty Industrial Casters



With angle fittings for attachment to angle irons, pipe threads for pipe application; threaded stem for "through" holes. String guards. Alemite lubrication; double ball bearing, fully enclosed dustproof swivel. Carbonized, hardened wearing parts; exposed parts zinc plated. Laguna blue lacquer finish.

Swivel Casters

Semi-Steel Tread Wheels

No.	Each	WHEEL INCHES— Diam. Width	Size CC of 1/4-In. Holes, In.	TOP PLATE Over- all Inches	Ht. Over- all In.	Recom. Load Lb.	Wt. Lb.
16-62 1/2-CI	\$4.40	2 1/2 1 1/4	1 3/4 x 2 7/8	2 1/2 x 3 3/8	3 3/4	150	2 1/2
16-63-CI	4.65	3 1 1/4	1 3/4 x 2 7/8	2 1/2 x 3 3/8	4 1/4	150	2 1/2
16-63 1/2-CI	4.85	3 1/2 1 1/4	1 3/4 x 2 7/8	2 1/2 x 3 3/8	4 3/4	150	3
16-64-CI	5.30	4 1 1/4	1 3/4 x 2 7/8	2 1/2 x 3 3/8	5 1/4	150	3
16-65-CI	5.70	5 1 1/4	1 3/4 x 2 7/8	2 1/2 x 3 3/8	6 1/4	150	4

Neoprene (Soft Rubber) Tread Wheels

16-62 1/2-DN	\$4.95	2 1/2 1 1/4	1 3/4 x 2 7/8	2 1/2 x 3 3/8	3 3/4	150	1 3/4
16-63-DN	5.25	3 1 1/4	1 3/4 x 2 7/8	2 1/2 x 3 3/8	4 1/4	150	2
16-63 1/2-DN	5.45	3 1/2 1 1/4	1 3/4 x 2 7/8	2 1/2 x 3 3/8	4 3/4	150	2 1/2
16-63 1/2-XDN	6.05	3 1/2 1 1/4	1 3/4 x 2 7/8	2 1/2 x 3 3/8	4 3/4	150	2 1/2
16-64-DN	6.00	4 1 1/4	1 3/4 x 2 7/8	2 1/2 x 3 3/8	5 1/4	150	2 1/2
16-65-DN	6.50	5 1 1/4	1 3/4 x 2 7/8	2 1/2 x 3 3/8	6 1/4	150	2 3/4
16-65-XDN	7.50	5 1 1/4	1 3/4 x 2 7/8	2 1/2 x 3 3/8	6 1/4	150	2 3/4

Corresponding Stationary Casters

Semi-Steel Tread Wheels

17-62 1/2-SCI	\$3.25	2 1/2 1 1/4	1 3/4 x 3 3/8	2 1/2 x 4 1/8	3 3/4	150	2 1/4
18-63-SCI	3.60	3 1 1/4	1 3/4 x 3 3/8	2 1/2 x 4 1/8	4 1/4	150	2 1/4
18-63 1/2-SCI	3.95	3 1/2 1 1/4	1 3/4 x 3 3/8	2 1/2 x 4 1/8	4 3/4	150	2 3/4
19-64-SCI	4.40	4 1 1/4	1 3/4 x 4 1/8	2 1/2 x 4 1/8	5 1/4	150	3
19-65-SCI	4.95	5 1 1/4	1 3/4 x 4 1/8	2 1/2 x 4 1/8	6 1/4	150	4

Neoprene (Soft Rubber) Tread Wheels

17-62 1/2-SDN	\$3.80	2 1/2 1 1/4	1 3/4 x 3 3/8	2 1/2 x 4 1/8	3 3/4	150	1 1/2
18-63-SDN	4.20	3 1 1/4	1 3/4 x 3 3/8	2 1/2 x 4 1/8	4 1/4	150	1 3/4
18-63 1/2-SDN	4.60	3 1/2 1 1/4	1 3/4 x 3 3/8	2 1/2 x 4 1/8	4 3/4	150	2
18-63 1/2-XSDN	5.20	3 1/2 1 1/4	1 3/4 x 3 3/8	2 1/2 x 4 1/8	4 3/4	150	2
19-64-SDN	5.10	4 1 1/4	1 3/4 x 4 1/8	2 1/2 x 4 1/8	5 1/4	150	2 1/8
19-65-SDN	5.70	5 1 1/4	1 3/4 x 4 1/8	2 1/2 x 4 1/8	6 1/4	150	2 3/4
19-65-XSDN	6.70	5 1 1/4	1 3/4 x 4 1/8	2 1/2 x 4 1/8	6 1/4	150	2 3/4

Wheel bearing; X, double ball; all others, hard steel.

Series 02 Darnell Light Duty Industrial Casters



With Semi-Steel Wheel

With Soft Rubber Wheel

For light duty industrial service on small dollies, trucks, etc. Swivel construction of double ball race type; upper set of bearings takes only load weight, secondary or lower set takes lateral thrust caused by offset of wheel. Semi-steel or rubber tread wheels adaptable to all types of floors; 1 1/8 inch wide at hub; 3/4-inch offset. Finish, laguna blue lacquer.

Swivel Casters

Semi-Steel Tread Wheels

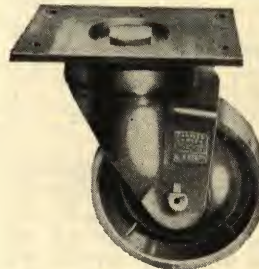
No.	Each	WHEEL INCHES— Diam. Width	Size C-C of 1/4-In. Holes, In.	TOP PLATE Overall Inches	Ht. Over- all In.	Recom- mended Load Lb.	Wt. Lb.
5-02-CI	\$2.75	2 1 1/4	1 1/4 x 2	1 7/8 x 2 5/8	3	100	1
5-02 1/2-CI	3.35	2 1/2 1 1/4	1 1/4 x 2	1 7/8 x 2 5/8	3 3/8	120	1 1/4
12-02-CI	2.75	2 1 1/8	1 1/8 x 2 7/8	2 3/8 x 3 5/8	3	100	1
12-02 1/2-CI	3.35	2 1/2 1 1/8	1 1/8 x 2 7/8	2 3/8 x 3 5/8	3 3/8	120	1 1/4
5-02-UDN	\$3.10	2 1 1/4	1 1/4 x 2	1 7/8 x 2 5/8	3	100	3/4
5-02 1/2-UDN	3.80	2 1/2 1 1/4	1 1/4 x 2	1 7/8 x 2 5/8	3 3/8	120	1
12-02-UDN	3.10	2 1 1/8	1 1/8 x 2 7/8	2 3/8 x 3 5/8	3	100	3/4
12-02 1/2-UDN	3.80	2 1/2 1 1/8	1 1/8 x 2 7/8	2 3/8 x 3 5/8	3 3/8	120	1

Corresponding Stationary Casters

Semi-Steel Tread Wheels

10-02-SCI	\$2.10	2 1 1	1 x 3	1 1/2 x 3 7/8	3	100	1
10-02 1/2-SCI	2.65	2 1/2 1 1	1 x 3	1 1/2 x 3 7/8	3 3/8	120	1 1/4
10-02-USDN	\$2.45	2 1 1	1 x 3	1 1/2 x 3 7/8	3	100	3/4
10-02 1/2-USDN	3.10	2 1/2 1 1	1 x 3	1 1/2 x 3 7/8	3 3/8	120	1

Wheel bearing: U, oilless; all others, hard steel.



Swivel

Series 600 Darnell Heavy Duty Industrial Casters

Dustproof, rustproof. Double ball-bearing swivel, carbonized, hardened wearing parts. Roller type wheel bearings. Alemite pressure lubrication.

String guards standard insure easy rolling. Laguna blue finish.

Recommended load 500 pounds.

Swivel Casters

Semi-Steel Tread Wheels

No.	Each	WHEEL INCHES— Diam. Width	Size C-C of 1/4-In. Holes, In.	TOP PLATE Overall Inches	Height Overall Inches	Wt. Lb.
6-605-RCI	\$18.85	5 2 1/8	3 3/8 x 5 1/4	5 1/4 x 7 1/8	7 1/8	14 1/2
6-605-TCI	21.80	5 2 1/8	3 3/8 x 5 1/4	5 1/4 x 7 1/8	7 1/8	14 1/2
6-606-RCI	21.10	6 2 1/8	3 3/8 x 5 1/4	5 1/4 x 7 1/8	8 1/8	17 1/2
6-606-TCI	24.20	6 2 1/8	3 3/8 x 5 1/4	5 1/4 x 7 1/8	8 1/8	17 1/2
6-608-RCI	23.50	8 2 1/4	3 3/8 x 5 1/4	5 1/4 x 7 1/8	10 1/8	23 1/2
6-608-TCI	28.85	8 2 1/4	3 3/8 x 5 1/4	5 1/4 x 7 1/8	10 1/8	23 1/2
6-605-RDN	\$19.45	5 2 1/8	3 3/8 x 5 1/4	5 1/4 x 7 1/8	7 1/8	11
6-605-TDN	22.45	5 2 1/8	3 3/8 x 5 1/4	5 1/4 x 7 1/8	7 1/8	11
6-606-RDN	21.80	6 2 1/8	3 3/8 x 5 1/4	5 1/4 x 7 1/8	8 1/8	15
6-606-TDN	24.90	6 2 1/8	3 3/8 x 5 1/4	5 1/4 x 7 1/8	8 1/8	15
6-6A8-TDN	30.25	8 1 3/4	3 3/8 x 5 1/4	5 1/4 x 7 1/8	10 3/8	14 1/2

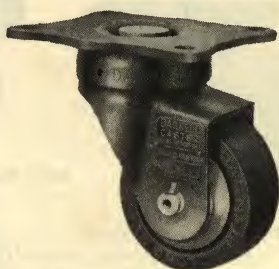
Corresponding Stationary Casters

Semi-Steel Tread wheels

6-606-RSCI	\$14.10	6 2 1/8	3 3/8 x 5 1/4	5 1/4 x 7 1/8	7 1/8	11 1/2
6-606-TSCI	17.15	6 2 1/8	3 3/8 x 5 1/4	5 1/4 x 7 1/8	7 1/8	11 1/2
5-606-RSCI	14.10	6 2 1/8	4 1/8 x 4 1/2	5 1/4 x 5 1/2	8 1/8	12 1/2
5-606-TSCI	17.15	6 2 1/8	4 1/8 x 4 1/2	5 1/4 x 5 1/2	8 1/8	12 1/2
2-608-RSCI	15.75	8 2 1/4	4 1/8 x 4 1/2	5 1/4 x 5 1/2	10 1/8	16 3/4
2-608-TSCI	21.10	8 2 1/4	4 1/8 x 4 1/2	5 1/4 x 5 1/2	10 1/8	16 3/4
6-606-RSDN	\$14.80	6 2 1/8	3 3/8 x 5 1/4	5 1/4 x 7 1/8	7 1/8	9 3/8
6-606-TSDN	17.85	6 2 1/8	3 3/8 x 5 1/4	5 1/4 x 7 1/8	7 1/8	9 3/8
5-606-RSDN	14.80	6 2 1/8	4 1/8 x 4 1/2	5 1/4 x 5 1/2	8 1/8	10 1/2
5-606-TSDN	17.85	6 2 1/8	4 1/8 x 4 1/2	5 1/4 x 5 1/2	8 1/8	10 1/2
2-6A8-TSDN	22.55	8 1 3/4	4 1/8 x 4 1/2	5 1/4 x 5 1/2	10 3/8	10 3/8

Wheel bearings: R, roller; T, Hyatt. Swivel casters, 1/2-inch diam. bolt holes. Stationary casters, 3/4-inch diameter bolt holes; except No. 6-606 casters, which have 1/2-inch diameter bolt holes.

Series 70 Darnell Medium Duty Industrial Casters



Swivel

Ball-bearing swivel with carbonized, hardened, perfectly round balls; balls roll freely in large hardened races for easy swiveling.

Rustproof zinc plated. Laguna blue finish.

Alemite flush type lubrication; round nose nipple. String guards standard.

Recommended load 300 pounds.

Swivel Casters—Semi-Steel Tread Wheels

No.	Each	WHEEL INCHES Diam. Width	TOP PLATE Size C-C of 3/8-In. Holes, In.	Over- all Inches	Ht. Over- all In.	Wt. Lb.
1-73-CI	\$7.05	3 1 3/8	25 3/8 x 3 5/8	3 1/2 x 4 1/2	4 3/8	3 1/2
1-73-TCI	9.15	3 1 3/8	25 3/8 x 3 5/8	3 1/2 x 4 1/2	4 3/8	3 1/2
1-74-CI	7.65	4 1 3/8	25 3/8 x 3 5/8	3 1/2 x 4 1/2	5 1/16	4
1-74-TCI	9.75	4 1 3/8	25 3/8 x 3 5/8	3 1/2 x 4 1/2	5 1/16	4
1-75-CI	8.25	5 1 3/8	25 3/8 x 3 5/8	3 1/2 x 4 1/2	6 1/16	5
1-75-TCI	10.40	5 1 3/8	25 3/8 x 3 5/8	3 1/2 x 4 1/2	6 1/16	5
1-76-CI	9.25	6 1 3/8	25 3/8 x 3 5/8	3 1/2 x 4 1/2	7 1/2	...
1-76-TCI	11.35	6 1 3/8	25 3/8 x 3 5/8	3 1/2 x 4 1/2	7 1/2	...

Neoprene (Soft Rubber) Tread Wheels

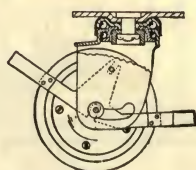
1-73-DN	\$7.75	3 1 3/8	25 3/8 x 3 5/8	3 1/2 x 4 1/2	4 3/8	3
1-73-TDN	9.85	3 1 3/8	25 3/8 x 3 5/8	3 1/2 x 4 1/2	4 3/8	3
1-74-DN	8.45	4 1 3/8	25 3/8 x 3 5/8	3 1/2 x 4 1/2	5 1/16	3 1/4
1-74-TDN	10.55	4 1 3/8	25 3/8 x 3 5/8	3 1/2 x 4 1/2	5 1/16	3 1/4
1-75-DN	9.15	5 1 3/8	25 3/8 x 3 5/8	3 1/2 x 4 1/2	6 1/16	4
1-75-TDN	11.25	5 1 3/8	25 3/8 x 3 5/8	3 1/2 x 4 1/2	6 1/16	4
1-76-DN	10.25	6 1 3/8	25 3/8 x 3 5/8	3 1/2 x 4 1/2	7 1/2	...
1-76-TDN	12.35	6 1 3/8	25 3/8 x 3 5/8	3 1/2 x 4 1/2	7 1/2	...

Stationary Casters

Semi-Steel Tread			Neoprene (Soft Rubber) Tread			Top Plate—Over- all		
No.	Each	Wt. Lb.	No.	Each	Wt. Lb.	WHEEL INCHES Diam. Width	Size C-C of 3/8-In. Holes In.	Ht. In.
1474-SCI	\$5.90	4	1474-SDN	\$6.70	3 1/4	4 1 3/8	3x4	4x5 4 3/8
1474-TSCI	8.00	4	1474-TSDN	8.80	3 1/4	4 1 3/8	3x4	4x5 4 3/8
1475-SCI	6.50	5	1475-SDN	7.40	4	5 1 3/8	3x4	4x5 5 1/16
1475-TSCI	8.60	5	1475-TSDN	9.50	4	5 1 3/8	3x4	4x5 5 1/16
1475-SSCI	7.05	5	1475-SSDN	7.90	4	5 1 3/8	3x4	4x5 6 1/16
1475-TSSCI	9.15	5	1475-TSSDN	10.05	4	5 1 3/8	3x4	4x5 6 1/16
1476-SSCI	8.05	6	1476-SSDN	9.05	5	6 1 3/8	3x4	4x5 7 1/2
1476-TSSCI	10.15	6	1476-TSSDN	11.15	5	6 1 3/8	3x4	4x5 7 1/2

Wheel bearing: T, Hyatt; all others, hard steel.

Darnell 70 Series Brake Casters



All 4 and 5 inch swivel caster models of the 70 Series can be furnished with brakes.

This type of brake is a combination swivel lock and wheel brake.

The brake is applied by foot pressure on the high brake lever and is released by foot pressure on the high lever.

Add the letter "B" as a suffix to the regular model number to specify brake. Add \$3.50 each to the list prices of the standard swivel caster models to arrive at the list price of the caster including brake.

Series 100 Darnell Heavy Duty Industrial Casters



Rustproof zinc plated. Finished laguna blue. Double ball bearing swivel. Races enclosed. Adjustable center retainer. Special semi-steel wheel of steel alloyed with iron. Face of tread machined, centered. Furnished with slight crown; flat on order. Recommended load 400 pounds.

Swivel Casters
Semi-Steel Tread Wheels

No.	Each	WHEEL INCHES Diam. Width	TOP PLATE Size C-C of 3/8-In. Holes, Inches	Top Plate Overall Inches	Height Overall Inches	Wt. Lb.
103-CI	\$10.55	3 1 1/2	25 3/8 x 3 5/8	3 1/2 x 4 1/2	4 3/4	6 1/2
103-TCI	13.20	3 1 1/2	25 3/8 x 3 5/8	3 1/2 x 4 1/2	4 3/4	6 1/2
104-CI	11.80	4 1 3/4	25 3/8 x 3 5/8	3 1/2 x 4 1/2	5 5/8	7
104-TCI	14.45	4 1 3/4	25 3/8 x 3 5/8	3 1/2 x 4 1/2	5 5/8	7
105-RCI	12.95	5 1 7/8	25 3/8 x 3 5/8	3 1/2 x 4 1/2	7	8 1/4
105-TCI	15.60	5 1 7/8	25 3/8 x 3 5/8	3 1/2 x 4 1/2	7	8 1/4
104-DN	\$12.25	4 1 3/4	25 3/8 x 3 5/8	3 1/2 x 4 1/2	5 5/8	5
105-RDN	13.45	5 1 7/8	25 3/8 x 3 5/8	3 1/2 x 4 1/2	7	6 1/2
105-TDN	16.10	5 1 7/8	25 3/8 x 3 5/8	3 1/2 x 4 1/2	7	6 1/2

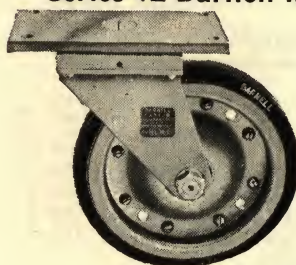
Corresponding Stationary Casters

Semi-Steel Tread Wheels						
No.	Each	WHEEL INCHES Diam. Width	TOP PLATE Size C-C of 3/8-In. Holes, In.	Top Plate Overall Inches	Height Overall Inches	Wt. Lb.
104-SCI	\$7.05	4 1 3/4	25 3/8 x 3 5/8	4x5	4 3/4	4 1/2
104-TSCI	9.70	4 1 3/4	25 3/8 x 3 5/8	4x5	4 3/4	4 1/2
105-RSCI	8.25	5 1 7/8	25 3/8 x 3 5/8	4x5	5 5/8	6 5/8
105-TSCI	10.90	5 1 7/8	25 3/8 x 3 5/8	4x5	5 5/8	6 5/8
1505-RSCI	8.45	5 1 7/8	3 1/2 x 4	4 1/2 x 5	7	7 3/4
1505-TSCI	11.10	5 1 7/8	3 1/2 x 4	4 1/2 x 5	7	7 3/4

Neoprene (Soft Rubber) Tread Wheels

Wheel Bearing: T, Hyatt; R, roller; all others, hard steel.

Series 4L Darnell Medium Heavy-Duty Industrial Casters



Double ball-bearing, dust-proof swivel head. Wheel bored for Alemite lubrication. Tires are renewable.

All moving parts are carbonized and hardened steel. Entire assembly enclosed by grease-retaining ring. Ball retainers adjustable for wear.

Wheel bearing: T, Hyatt; R, roller; X, double ball.

Swivel Casters
Semi-Steel Tread Wheels

No.	Each	WHEEL INCHES Diam. Width	TOP PLATE Size C-C of 3/8-In. Holes, In.	Top Plate Overall Inches	Ht. Over- all Load In. Lb.	Recom- mended Wt. Lb.
4L05-RCI	\$14.10	5 1 7/8	3x6	4x7	6 1/8	400 11 3/8
4L05-TCI	16.70	5 1 7/8	3x6	4x7	6 1/8	400 11 3/8
4L06-RCI	15.85	6 1 7/8	3x6	4x7	7 1/8	400 13
4L06-TCI	18.50	6 1 7/8	3x6	4x7	7 1/8	400 13
4LA8-TBCI	29.50	8 2 1/4	3x6	4x7	9 1/4	400 20

Neoprene (Soft Rubber) Tread Wheels

4L05-RDN	\$14.60	5 1 5/8	3x6	4x7	6 1/8	400 9
4L05-TDN	17.25	5 1 5/8	3x6	4x7	6 1/8	400 9
4L06-RDN	16.80	6 1 5/8	3x6	4x7	7 1/8	400 10 1/2
4L06-TDN	19.45	6 1 5/8	3x6	4x7	7 1/8	400 10 1/2
4L08-XDN	20.15	8 1 3/16	3x6	4x7	9 1/4	400 11 1/2
4LA8-TBDN	30.90	8 1 3/4	3x6	4x7	9 1/4	400 14 3/4

Corresponding Stationary Casters

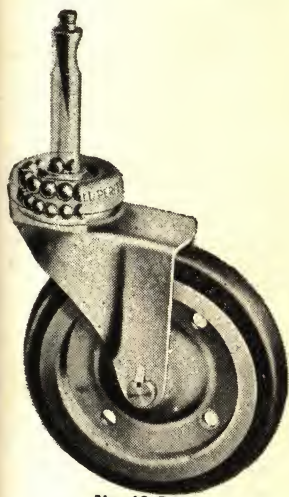
Semi-Steel Tread Wheels						
No.	Each	WHEEL INCHES Diam. Width	TOP PLATE Size C-C of 3/8-In. Holes, In.	Top Plate Overall Inches	Ht. Over- all Load In. Lb.	Recom- mended Wt. Lb.
15L5-RSCI	\$9.60	5 1 7/8	3 1/2 x 4	4 1/2 x 5	6 1/8	400 7
15L5-TSCI	12.25	5 1 7/8	3 1/2 x 4	4 1/2 x 5	6 1/8	400 7
15L6-RSCI	11.35	6 1 7/8	3 1/2 x 4	4 1/2 x 5	7 1/8	400 9
15L6-TSCI	14.00	6 1 7/8	3 1/2 x 4	4 1/2 x 5	7 1/8	400 9
5-4L8-TBSCI	23.75	8 2 1/4	4 3/4 x 4 1/2	5 1/2 x 5 1/2	9 1/4	400 17

Neoprene (Soft Rubber) Tread Wheels

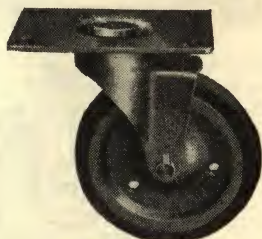
15L5-RSDN	\$10.10	5 1 5/8	3 1/2 x 4	4 1/2 x 5	6 1/8	400 5 1/2
15L5-TSDN	12.75	5 1 5/8	3 1/2 x 4	4 1/2 x 5	6 1/8	400 5 1/2
15L6-RSDN	12.30	6 1 5/8	3 1/2 x 4	4 1/2 x 5	7 1/8	400 6 1/2
15L6-TSDN	14.95	6 1 5/8	3 1/2 x 4	4 1/2 x 5	7 1/8	400 6 1/2
2-4L08-XSDN	14.00	8 1 5/16	4 1/2 x 4 1/2	5 1/2 x 5 1/2	9 1/4	400 8 1/2
5-4LA8-TBSDN	25.15	8 1 3/4	4 3/4 x 4 1/2	5 1/2 x 5 1/2	9 1/4	400 12

Darnell Casters for Institutional Service

With Foot Operated Brake



No. 12-DN



NO. U-12-15-DN

Especially suited for roller beds, hospital beds and equipment, X-ray equipment, movie studio equipment, book trucks, etc.

Series 12, 15 and 17 casters have swivel lock device.

Aluminum lacquer finish; rustproofed.

Stem and Socket Type—with Neoprene Treads

No.	Per Set of 4	Diam. Wheel In.	Width Tread In.	Height Overall In.	Wt., Lb. per Set of 4
*12-DN	\$11.20	3	3/4	3 7/8	4 1/4
*15-DN	12.60	4	3/4	4 7/8	5
U-16-DN	14.60	4 1/2	7/8	5 3/8	6
†U-17-DN	15.90	5	7/8	5 7/8	6 3/4

H stem and toothed track plate socket No. 12 regularly furnished.

Flat Top Type

Swivel Casters

No.	Per Set of 4	Wheel Diam. In.	Width Tread In.	Height Overall In.	Wt., Lb. per Set of 4
U-12-12-DN	\$11.60	3	7/8	4	4 1/4
U-12-15-DN	13.20	4	7/8	5	5
U-12-16-DN	14.60	4 1/2	7/8	5 1/2	6
U-12-17-DN	15.90	5	7/8	6	6 3/4

Corresponding Stationary Casters

U-10-12-SDN	9.80	3	7/8	4	4 1/4
U-10-15-SDN	11.45	4	7/8	5	5
U-10-16-SDN	12.80	4 1/2	7/8	5 1/2	6
U-10-17-SDN	14.10	5	7/8	6	6 3/4

No. 12 Top Plate regularly furnished on models above. Nos. 5, 6, or 8 furnished when ordered.

Wheel type: *Hardened steel bearings; †oil-less bearings.

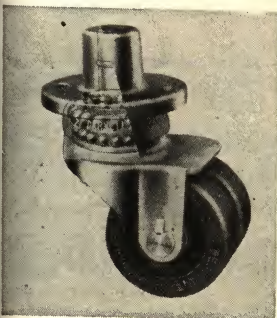
No. U-40-H Darnell Swivel Piano Casters

Hard Rubber Wheels with Oilless Bearings

For use on carpets. Face of wheel hard and smooth; does not grip nap on carpet. Swivel construction has two sets of ball bearings; upper one carries the load weight, the lower one takes care of the lateral thrust caused by offset of wheel.

Sockets are included with each set of casters, unless otherwise specified. Oxidized black finish.

No.	U-40-H
Per Set of 4	\$12.30
Wheel Diam. . . . in.	2
Wheel Face in.	3/4
Wheel Width in.	1 7/8
Load Cap. lb.	600
Wt. per Set lb.	5



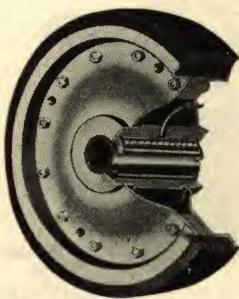
Darnell E-Z Roll Wheels

Made especially for use on 2-wheel hand trucks, platform trucks, trailers, etc.

Treads will not stretch, nor become loose on wheels; they are made soft to give maximum protection to floors and are replaceable. Constructed so that elongation is entirely eliminated. Flat base of tread is of non-stretchable rubber fiber material tapered at flat base.

Zerk lubrication. Roller bearing, with renewable outer race.

Wheel bearings are made to fit axles 1 1/4 inches or less in diameter. Hardened and ground spanner bushings are furnished for axles 1 1/8 inches or less in diameter.



Rustproofed hub guards keep dirt out and grease in.

6-Inch, with Short Hub. Diameter, 6 inches. Tread face width, 1 3/8 inches; hub length, 2 inches. No. TB-106-WDNEZ furnished with 5/8-inch bore. No. TG-106-WDNEZ furnished with 3/4-inch bore. Shipping weight, 3 1/2 pounds.

6-Inch Wheel with Short Hub, Complete. each \$8.90
Tire (Replacement) each 4.65

8-Inch, with Short Hub. Diameter, 8 inches. Tread face width, 1 3/4 inches; hub length, 2 3/4 inches. No. TB-1A08-WDNEZ furnished with 5/8, 3/4, 7/8, 1, 1 1/16 and 1 1/8-inch bore. No. TG-1A08-WDNEZ furnished in 1 3/16 and 1 1/4-inch bore. Shipping weight, 8 3/4 pounds.

8-Inch Wheel with Short Hub, Complete. each \$18.95
Tire (Replacement) each 7.15

9-Inch, with Short Hub. Diameter, 9 inches. Tread face width, 1 3/4 inches; hub length, 2 3/4 inches.

No. TB-1A09-WDNEZ made in 5/8, 3/4, 7/8, 1, 1 1/16 and 1 1/8-inch bore. No. TG-1A09-WDNEZ made in 1 3/16 and 1 1/4-inch bore. Shipping weight, 10 pounds.

9-Inch Wheel with Short Hub, Complete. each \$23.30
Tire (Replacement) each 11.00

9-Inch Wheel with Short Hub and 2 1/2-inch Face, Complete. each 29.40
Tire (Replacement) each 14.85

10-Inch, with Short Hub. Diameter, 10 inches. Tread face width, 2 inches; hub length, 2 3/4 inches.

No. TB-1A10-WDNEZ furnished in 5/8, 3/4, 7/8, 1, 1 1/16 and 1 1/8-inch bore. No. TG-1A10-WDNEZ furnished in 1 3/16 and 1 1/4-inch bore. Shipping weight, 10 1/2 pounds.

10-Inch Wheel with Short Hub, Complete. each \$23.25
Tire (Replacement) each 10.45

12-Inch, with Long Hub. Diameter, 12 inches. Tread face width, 2 inches; hub length, 3 1/4 inches.

No. TLB-1A12-WDNEZ furnished in 5/8, 3/4, 7/8, 1, 1 1/16 and 1 1/8-inch bore. No. TLG-1A12-WDNEZ furnished in 1 3/16 and 1 1/4-inch bore. Shipping weight, 14 pounds.

12-Inch Wheel with Long Hub, Complete. each \$32.90
Tire (Replacement) each 19.25

Solid Rubber

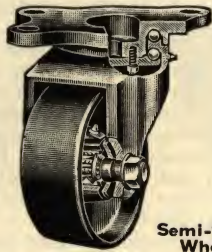
No.	Complete Each	Tire Each	Wheel Diam. In.	Tread Face In.	Hub Length In.	Bore In.	Recomm. Load Pounds	Wt. Pounds Each
U-74-WDNEZ	\$3.80	4.15	4 1/8	1 1/16	1 1/2	1/2 to 3/4	200	3/4
U-75-WDNEZ	4.20	5.15	5 1/8	1 1/16	1 1/2	3/4 to 1	250	1
U-76-WDNEZ	4.65	6.15	6 1/8	1 1/16	1 1/2	1 to 1 1/4	300	1 1/2

Replaceable Tread

TB-105-WDNEZ	\$8.10	\$2.45	5 1/8	2	5/8	& 3/4	250	2 3/4
TB-106-WDNEZ	8.90	4.65	6 1/8	2	5/8	& 3/4	300	3 1/2
TB-107-WDNEZ	11.10	6.85	7 1/8	2	5/8	& 3/4	350	4
TB-1008-WDNEZ	16.10	3.90	8 1/8	2 3/4	5/8	to 1 1/4	400	8
TB-1A08-WDNEZ	18.85	7.15	8 1/4	2 3/4	5/8	to 1 1/4	400	8 3/4
TB-1B08-WDNEZ	25.00	8.25	8 2 1/2	2 1/16	5/8	to 1 1/4	400	9 1/2
TB-1A09-WDNEZ	23.30	11.00	9 1/4	2 3/4	5/8	to 1 1/4	450	10
TB-1B09-WDNEZ	29.40	14.85	9 2 1/2	2 1/16	5/8	to 1 1/4	450	11
TB-1A10-WDNEZ	23.25	10.45	10 2	2 3/4	5/8	to 1 1/4	500	10 1/2
TB-1AB10-WDNEZ	26.20	14.85	10 1 3/4	2 3/4	5/8	to 1 1/4	500	10 1/4
TB-1BB10-WDNEZ	34.95	20.40	10 2 1/2	2 1/16	5/8	to 1 1/4	500	12 1/2
TB-1A11-WDNEZ	28.95	14.85	11 2	2 3/4	5/8	to 1 1/4	550	11 3/4
TLB-1B11-WDNEZ	32.90	17.60	11 2 1/2	3 1/4	5/8	to 1 1/4	550	13 1/2
TB-1A12-WDNEZ	32.55	19.25	12 2	2 3/4	5/8	to 1 1/4	600	13 1/2
TLB-1B12-WDNEZ	44.25	23.15	12 2 1/2	3 1/4	5/8	to 1 1/4	600	15 3/4
TLB-1A14-WDNEZ	40.20	25.10	14 2 1/2	3 3/4	1	to 1 1/4	700	36
TLB-1A16-WDNEZ	54.40	34.15	16 2 1/2	3 3/4	1	to 1 1/4	800	46
TLB-1A18-WDNEZ	110.90	35.20	18 2 1/2	4 1/2	1	to 1 3/4	900	56

Series 570 Payson Swivel Truck Casters

Extra Heavy Duty—Cast Alloy



Semi-Steel Wheel



Solid Rubber Wheel

Wheel is made of cast semi-steel or solid rubber, both with plain or roller bearing axles. Roller bearings are Hyatt type with split planished outer raceways. The plain axle of the rubber wheel moves in a self-lubricating bushing.

Without king bolt. All parts removable and renewable.

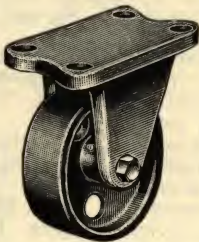
Add 3R to number for roller bearing axles; RM for soft tread wheel, vulcanized on hard rubber; and T for all hard rubber wheel.

No.	Wheel Diameter Face Inches	Template Inches	Bolt Hole Diameter Inches	Overall Height Inches	Capacity Pounds per Set (4)	Weight Pounds
573	3x1 1/4	2 1/8 x 3 3/8	5/16	4 1/4	1500	3 1/2
574	4x1 1/4	2 5/8 x 3 5/8	3/8	5 5/8	2400	9
575	5x2	2 7/8 x 4 15/16	1/2	6 5/8	3000	12
576	6x2	2 7/8 x 4 15/16	1/2	7 1/2	4000	15 1/2
578	8x2 1/2	3 3/8 x 5 1/4	1/2	10 1/4	6000	30
5710	10x3	5 1/2 x 8 1/2	1/2	12 1/2	15000	46

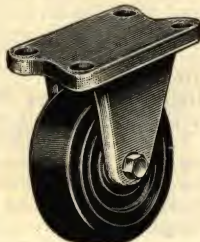
Semi-Steel Wheel			Solid Rubber Wheel		
Plain Bearing No.	Each	Roller Bearing No.	Each	Plain Bearing No.	Each
573	\$4.00	573-3R	\$5.30	573RM	\$4.00
574	5.40	574-3R	6.70	574RM	6.00
575	8.30	575-3R	9.60	575RM	8.50
576	9.10	576-3R	10.40	576RM	10.00
578	17.30	578-3R	18.50	578RM	17.70
5710	32.50	5710-3R	34.00	578RM-3R	18.90

Series 510 Payson Rigid Truck Casters

Extra Heavy Duty—Cast



Semi-Steel Wheel



Solid Rubber Wheel

All parts removable, renewable and with lubrication.

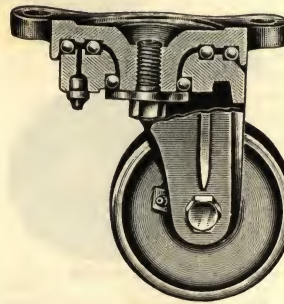
Add 3R to number for roller bearing axles; RM for soft tread wheel, vulcanized on hard rubber; and T for all hard rubber wheel.

No.	Wheel Diameter Face Inches	Template Inches	Bolt Hole Diameter Inches	Overall Height Inches	Capacity Pounds per Set (4)	Weight Pounds
513	3x1 1/4	2 3/8 x 3 5/8	5/16	4 1/4	1500	3
514	4x1 1/4	2 5/8 x 3 5/8	3/8	5 5/8	2880	6
515	5x2	2 7/8 x 4 15/16	1/2	6 5/8	3600	9 1/4
516	6x2	2 7/8 x 4 15/16	1/2	7 1/2	4800	12
518	8x2 1/2	3 3/8 x 5 1/4	1/2	10 1/4	7200	22
5110	10x3	5 1/2 x 8 1/2	3/4	12 1/2	15000	44

Semi-Steel Wheel			Solid Rubber Wheel		
Plain Bearing No.	Each	Roller Bearing No.	Each	Plain Bearing No.	Each
513	\$2.50	513-3R	\$3.80	513RM	\$2.40
514	3.20	514-3R	4.50	514RM	3.20
515	4.40	515-3R	5.70	515RM	5.40
516	5.60	516-3R	6.90	516RM	6.90
518	12.50	518-3R	13.70	518RM	13.40
5110	27.00	5110-3R	27.00	518RM-3R	14.60

Series 130 Payson Swivel Truck Casters

Heavy Duty—Cast Semi-Steel



Oblong base.

Multiple ball races (two in sizes up to 3 1/2 inches, three in the 4 inches and larger) produce easy swivel action and large load capacity.

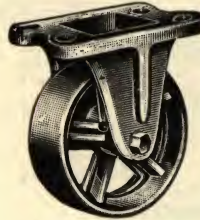
The 3R added to number is for Hyatt roller bearing axles; RM for soft tread wheel, vulcanized on hard rubber; and V for vulcanized rubber wheel. Change RM to T for all hard rubber wheel.

No.	Wheel Diam. Face Inches	Template Inches	Bolt Hole Diam. In.	Over-all Ht. In.	Cap. Lb. per Set (4)	Wt. Lb.
132	2 x1	1 5/8 x 2 13/16	1/4	3 3/16	800	2
132 1/2	2 1/2 x 1 1/8	1 7/16 x 3 3/4	3/8	4	1000	3.2
133	3 x 1 1/2	2 1/8 x 3 7/8	3/8	4 1/2	1200	5.4
133 1/2	3 1/2 x 1 1/2	2 7/8 x 3 11/16	3/8	5 1/4	1500	6
134	4 x 1 1/2	3 1/8 x 4 5/8	1/2	6	1600	8.7
135	5 x 2	3 11/16 x 5 1/2	1/2	7	2500	16.7
136	6 x 2 1/4	4 11/16 x 6 3/8	9/16	8 1/8	3000	28.5

Semi-Steel Wheel			Solid Rubber Wheel		
Plain Bearing No.	Each	Roller Bearing No.	Each	Plain Bearing No.	Each
132	\$1.90	132 1/2-3R	\$3.80	132 1/2RM	\$2.80
132 1/2	2.50	133-3R	4.30	133RM	3.45
133	3.00	133 1/2-3R	5.00	133 1/2RM	4.40
133 1/2	3.70	134-3R	5.60	134RM	5.10
134	4.30	135-3R	9.80	135RM	9.90
135	8.50	136-3R	16.20	136RM	16.60
136	14.90			136RM-3R	17.90

Series H220 Payson Rigid Truck Casters

Heavy Duty
Cast Semi-Steel



Oblong base.

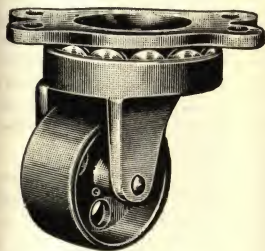
Add 3R to number for Hyatt roller bearing axles; RM for soft tread wheel, vulcanized on hard rubber; and T for all hard rubber wheel.

No.	Wheel Diam. Face Inches	Template Inches	Bolt Hole Diam. In.	Over-all Ht. In.	Cap. Lb. per Set (4)	Wt. Lb.
H222	2 x1	1 x 3 1/8	1/4	2 11/16	700	1.25
H222 1/2	2 1/2 x 1 1/8	1 1/4 x 2 3/4	1/4	3 3/16	960	1.65
H223	3 x 1 1/4	1 3/8 x 3 1/4	1/4	4	1200	2.68
H223 1/2	3 1/2 x 1 1/2	1 3/8 x 3 1/4	1/4	4 1/8	1300	3.1
H224	4 x 1 1/2	1 11/16 x 3 13/16	5/16	4 1/2	1440	3.9
H224 1/2	4 1/2 x 1 5/8	2 x 4 1/16	7/16	5 1/4	1800	6.0
H225	5 x 1 5/8	2 1/8 x 4 1/2	1/2	6	2800	8.0
H226	6 x 1 3/4	2 4/5 x 5	1/2	7	3000	9.0
H227	7 x 2 1/4	3 x 6	1/2	8 5/16	3300	18.2
H228	8 x 2 1/4	3 x 6	1/2	8 11/16	3600	20.6

Semi-Steel Wheel			Solid Rubber Wheel		
Plain Bearing No.	Each	Roller Bearing No.	Each	Plain Bearing No.	Each
H222	\$1.00	H222 1/2-3R	\$2.45	H222 1/2RM	\$1.45
H222 1/2	1.15	H223-3R	2.85	H223RM	1.95
H223	1.55	H223 1/2-3R	3.15	H223 1/2RM	2.55
H223 1/2	1.85	H224-3R	3.55	H224RM	3.80
H224	2.25	H224 1/2-3R	4.30	H224RM	3.80
H224 1/2	3.00	H225-3R	4.50	H225RM	4.40
H225	3.20	H226-3R	6.15	H226RM	6.60
H226	4.85	H227-3R	8.45	H227RM	8.45
H227	8.15	H228-3R	10.60	H228RM	10.60
H228	9.30				

Series 180-190 Payson Swivel Truck Casters

Medium Duty



Oblong base. Anti-friction swivel. Steel discs revolve in large diameter raceway.

Roller bearings furnished in all types of wheels, when specified, in all caster sizes 2½ inches to 8. Sizes 2½ to 4 are equipped with Torrington bearing; sizes 5 to 8-inch inclusive, with Hyatt bearings.

Semi-Steel Wheels				Solid Rubber Wheels			
Plain Bearing No.	Each	Roller Bearing No.	Each	Plain Bearing No.	Each	Roller Bearing No.	Each
*184	\$.80			*184RM	\$1.05		
*186	1.05			*186RM	1.30		
*188	1.40	*188-3R	\$2.70	*188RM	1.70	*188RM-3R	\$3.00
*190	2.05	*190-3R	3.35	*190RM	2.50	*190RM-3R	3.80
*H190	2.60	*H190-3R	3.90				
*191	3.40	*191-3R	4.70	*191RM	4.10	*191RM-3R	5.40
*L190	2.80	*L190-3R	4.10	*L190RM	3.60	*L190RM-3R	4.90
†192	6.00	†192-3R	7.30	†192RM	6.90	†192RM-3R	8.20
†193	7.20	†193-3R	8.50	†193RM	8.60	†193RM-3R	9.90
*194	10.80	*194-3R	12.10	*194RM	16.10	*194RM-3R	17.40
†195	14.40	195-3R	15.70				

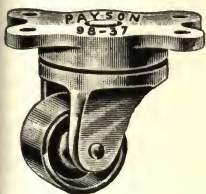
—WHEEL, INCHES—				Template Inches	Bolts In.	Overall Height Inches	Cap. Lb. Set of 4	Weight Pounds
No.	Diam.	Face	Width					
*184	1½	1½	1½	1 x 2½	¾	2¼	...	.65
*186	2	1½	1½	1½ x 2½	¾	2½	600	1.00
*188	2½	1½	1½	1½ x 3¼	¾	3½	800	2.25
*190	3	1½	1½	2½ x 3¾	¾	4½	1000	3.7
*H190	3	1½	1½	2½ x 3¾	¾	4½	1200	4.5
*191	3½	1½	1½	2½ x 3¾	¾	4½	1100	4.6
*L190	4	1½	1½	2½ x 3¾	¾	5½	1200	4.75
†192	4	2¼	2¼	2¼ x 4½	¾	5½	1600	9.4
†193	5	2¼	2¼	2¼ x 4½	¾	6½	2400	11.7
*194	6	2¼	2¼	3¼ x 5¾	¾	7¼	2400	16.9
†195	6	3¼	3¼	3¼ x 7¾	1½	8¾	3200	29.5
†197	8	4	4	5¼ x 8¾	¾	11½	16000	120.

Wheel faces: *regular; †wide.

‡Add RM for soft tread; and T for all hard rubber.

Payson Medium Duty Oblong Base Casters

Disc-Bearing—Anti-Friction Swivel



Semi-steel wheels, plain axle.

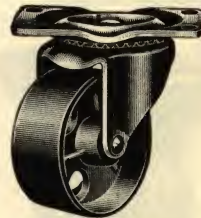
Solid rubber wheels can be furnished. Add RM to number which is cushion rubber tread, noiseless; or add T, an all hard rubber, not so noiseless but has greater capacity than RM. Axles are nut and bolt.

No.	F182	F183	F184	F186
With Semi-Steel				
Wheels.....each	\$.55	.65	.80	1.05
Diameter Wheel...inches	1½	1¾	1½	2
Face of Wheel.....inches	1½	5/8	¾	7/8
Width Base.....inches	1½	1½	1¾	2½
Length Base.....inches	2	2¾	2¾	3½
Template.....inches	9/16x1½	7/8x1¾	1x2½	1½x2¾
Diameter Attaching				
Screws.....Gage No.	6	8	10	10
Height Overall.....inches	1¾	2	2½	2¾
*Ship. Wt. Per Set.....lb.	1	1½	2½	4

*Plain axle, semi-steel wheel.

No. 760 Payson Swivel Truck Casters

Medium Duty —Wrought Steel



Semi-Steel Wheel



RM Cushion Tread Rubber Wheel

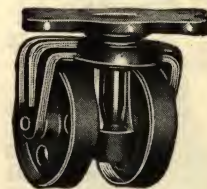
The 3R added to number is for roller bearing axles; RM for cushion tread wheel, vulcanized on hard rubber. Change RM to T for all hard rubber wheel.

No.	Wheel Diam. Face, In.	Template Inches	Bolt Hole Diam., In.	Overall Height Inches	Cap. Lb. per Set (4)	Weight Pounds
761½	1½ x 1½	1 x 2½	¼	2½	600	.53
762	2 x 7/8	1 x 2½	¼	2½	600	.65
762½	2½ x 1½	1½ x 3	5/16	3¼	800	1.6
763	3 x 1¼	2½ x 3½	5/16	3¾	1000	2.3
763½	3½ x 1½	2½ x 3¾	3/8	4¾	1000	3.3
764	4 x 1½	3 x 4	3/8	5	1200	4.25
765	5 x 1¾	3¾ x 4½	3/8	6¼	1600	7.0
766	6 x 2	4½ x 5½	3/8	7¾	2400	13.0
768	8 x 2½	4½ x 5½	3/8	9½	3200	17.2

RM Cushion Tread Rubber Wheel

Semi-Steel Wheel				RM Cushion Tread Rubber Wheel			
Plain Bearing No.	Each	Roller Bearing No.	Each	Plain Bearing No.	Each	Roller Bearing No.	Each
761½	\$.39			761½RM	\$.47		
762	.42	762½-3R	\$2.20	762RM	.54	762½RM-3R	\$2.50
762½	.90	763-3R	2.45	762½RM	1.20	763RM-3R	2.80
763	1.15	763½-3R	3.07	763RM	1.50	763½RM	3.70
763½	1.77	764-3R	3.40	763½RM	2.40	764RM-3R	4.10
764	2.10	765-3R	5.60	764RM	2.80	765RM-3R	6.60
765	4.30	766-3R	6.50	765RM	5.30	766RM-3R	8.10
766	5.20	768-3R	10.10	766RM	6.80	768RM-3R	15.90
768	8.60			768RM	14.40		

Series 900 Payson Double Wheel Swivel Truck Casters



Has a ball stem swivel, which carries the load. Side thrusts are borne by stem through casehardened roller in elongated hole in top of bracket. This permits wheels to rise and fall, overcoming irregularities in floor.

No.	902	902½	903	903½	904
Series 900.....each	\$1.80	2.35	2.80	3.80	5.80
Wheel: Diam.....in.	2	2½	3	3½	4
Face Width.....in.	7/8	¾	¾	1	1¾
Template.....in.	1½x2¾	1½x3½	1½x3½	2½x3¾	2½x4¾
Bolts.....in.	¼	*No. 14	¼	5/16	5/16
Overall Ht.....in.	2½	3½	4¾	4¾	6
Cap. per Set.....lb.	200	800	1000	1100	1200
Weight.....lb.	2.1	2.7	3.9	5.3	9.6

*Screw.

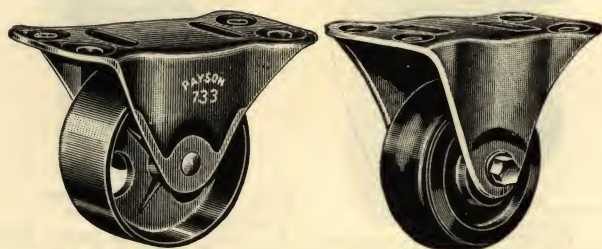
Castors are available with special stems, either plain or threaded, for pipe or bolt; also with brackets or adaptors for application to wood, angle iron, pipe or tubing.

The many types of casters require too great a space for all to be shown here.

We are prepared to furnish complete information and prices on casters for any application—commercial or industrial. Your inquiries will receive our courteous attention.

Payson Rigid Truck Casters

Series 730 and 740
Medium Duty—Oblong Base



Semi-Steel Wheel

RM Cushion Tread

Made of wrought steel, except the wheel. Heavy in construction to give the best reinforcing for service in the medium duty class, but also save weight. Both semi-steel or solid rubber wheels are made with reinforcing sleeves.

Lubrication: Semi-steel wheels have oil holes in the hub; solid rubber wheels—plain bearing axles have oilless bronze bushings; roller bearing axles 4-inch and smaller have flush pressure fittings in the axle, larger sizes have push pressure fittings in the axle.

Dimensions

No.	Semi-Steel Wheel, In.	Face Diam.	Width In.	Base Width and Lgth. In.	Base Template In.	Axle Diam. In.	Overall Ht. In.	Cap. Lb. Set of 4	Ship. Wt. Lb.
732	2	1 1/16	2 1/4	4 1/2	1 1/16	3 1/2	2 1/16	720	.95
732 1/2	2 1/2	1 1/8	2 1/2	x5	1 3/16	x4	3 1/4	960	1.4
733	3	1 1/4	2 1/2	x5	1 3/16	x4	3 3/8	1200	2.1
733 1/2	3 1/2	1 1/2	3 1/8	x6 1/4	1 3/4	x5	4 3/4	360	3
734	4	1 1/2	3 1/8	x6 1/4	1 3/4	x5	5	1440	2.75
745	5	1 3/4	5 1/8	x5 3/4	3 3/4	x4 1/2	6 7/16	1920	8.95
746	6	2	5 5/8	x6 1/2	4 1/8	x5 1/2	7 1/2	2880	10
748	8	2 1/4	5 5/8	x6 1/2	4 1/8	x5 1/2	9 1/2	3840	17.4

Special Sizes

73202½	2½	1⅛	2¼	x4½	1⅓	x3½	5/16	213/16	240	1.4
733-21	3	1¼	2½	x5	13/16	x4	5/16	39/16	300	2.3
73303½	3½	1½	2½	x5	13/16	x4	5/16	41/8	300	2.4
73304	4	1½	2½	x5	13/16	x4	3/8	43/8	1200	2.5
734-21	4	1½	3⅛	x6¼	1¾	x5	3/8	49/16	1440	2.75

Semi-Steel Wheels

No.	Plain Bearing	Each	No.	Roller Bearing	Each
732		\$.49			
732 1/2		.85	732 1/2-3R		\$2.15
733		.92	733-3R		2.22
733 1/2		1.35	733 1/2-3R		2.65
734		1.50	734-3R		2.80
745		2.75	745-3R		4.05
746		3.15	746-3R		4.45
748		6.90	748-3R		8.20

Special Sizes

73202 1/2	\$.75	73202 1/2-3R	\$2.05
733-21	.95	733-21-3R	2.25
73303 1/2	1.35	73303 1/2-3R	2.65
73304	1.40	73304-3R	2.70
734-21	1.50	734-21-3R	2.80

RM Cushion Tread Rubber Wheels

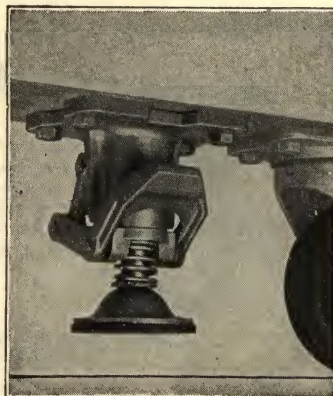
No.	Plain Bearing	Each	No.	Roller Bearing	Each
732RM		\$.75			
732 1/2RM		1.25	732 1/2RM-3R		\$2.55
733RM		1.40	733RM-3R		2.70
733 1/2RM		2.05	733 1/2RM-3R		3.25
734RM		2.40	734RM-3R		3.70
745RM		3.60	745RM-3R		4.90
746RM		4.80	746RM-3R		6.10
748RM		8.90	748RM-3R		10.20

*Solid Rubber, Hard Fibrous Compound Center

73302 1/2RM	\$1.05	73302 1/2RM-3R	\$2.35
733-21RM	1.35	733-21RM-3R	2.65
73303 1/2RM	2.05	73303 1/2RM-3R	3.35
73304RM	2.20	73304RM-3R	3.50
734-21RM	2.30	734-21RM-3R	3.60

*For all hard fibrous compound, substitute suffix "T" for suffix "RM"; price the same.

Bassick Floor Truck Locks



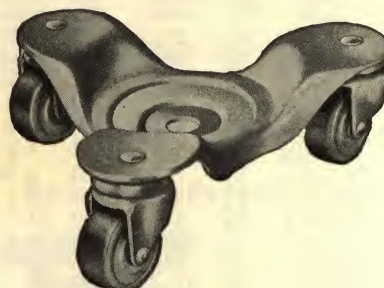
A positive position lock to keep equipment in place without the need of caster brakes. Operated by a foot lever. Almost 12 square inches of friction locking surface in contact with the floor.

The steel cup mounting of the brake shoe has a flexible joint so that locking surface is always in flat contact with the floor.

*For operation on angle track or on the floor.

No.	Each	Height of Mounting Above Floor, In.	Size of Mounting Plate Inches	Bolt Hole Spacing Inches	Size of Bolt Holes Inches	For Caster Size Inches	Approx. Weight Pounds Each
F-400	\$8.40	5 5/8	3 7/8 x 5 3/8	2 5/8 x 3 3/8	1 1/16	4	8
F-550	9.60	7 1/4	4 1/2 x 6	2 7/16 x 4 15/16	1 1/8	6	10
F-600	9.60	7 3/4	4 1/2 x 6	2 7/16 x 4 15/16	1 1/8	6	10
F-800	11.75	10 1/4	5 3/8 x 7 1/4	3 3/8 x 5 1/4	1 1/8	8	15
*F-601	11.75	8 1/8	4 1/2 x 6	2 7/16 x 4 15/16	1 1/8	6	11 1/2
*F-602	11.75	7 3/4	4 1/2 x 6	2 7/16 x 4 15/16	1 1/8	6	11
*F-801	14.15	10 1/2	5 3/8 x 7 1/4	3 3/8 x 5 1/4	1 1/8	8	16

No. 505 Bassick Triangular Caster Dollies



A light duty stove truck or all purpose steel caster dolly. The low overall height permits it to slip easily under heavy boxes, packing cases, desks, tables, heavy furniture, radio cabinets, stoves, refrigerators, etc., where

a permanent caster installation is not required.

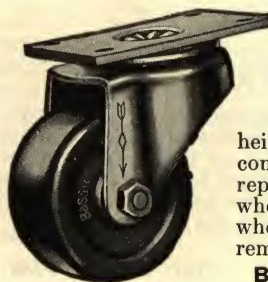
Equipped with ball bearing steel casters and 1 1/4-inch diameter steel wheels. Bright steel finish. Overall height, 1 3/8 inches. Height to bottom of cup, 1 inch.

No. 505, Weight Set of 4, 3 1/2 Lb. per set of 4 \$3.60

Series 70 Bassick Light Duty Casters

Light Diamond Arrow Swivel Plate Construction

Ball bearing. The plate construction makes this quality caster available for many miscellaneous products where maximum ease of swivel and overall height are important factors to be considered. It is an ideal caster for replacement purposes on office chairs where socket holes have work or where old sockets cannot easily be removed. Copper oxidized finish.

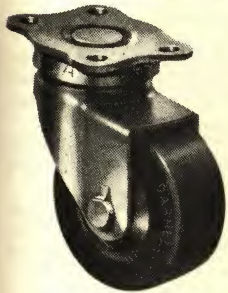


Baco Rubber Protective Tread Wheel

No.	Per Set	Wheel Diam. In.	Top Plate In.	Plate Holes In.	Overall Ht. In.	Size Holes In.	Wt. Oz. per Set
7706	\$3.00	1 5/8	1 1/8 x 2	1 3/16 x 1 3/16	2 1/8	3/16	18
9706	3.60	2	1 1/8 x 2	1 3/16 x 1 3/16	2 1/2	3/16	23
10706	4.80	2 1/2	1 1/8 x 2	1 3/16 x 1 3/16	3	3/16	30
L13706	6.00	3	1 1/8 x 2	1 3/16 x 1 3/16	3 1/2	3/16	40
With Atlasite Hard Tread Wheels							
7709	2.80	1 5/8	1 1/8 x 2	1 3/16 x 1 3/16	2 1/8	3/16	18
9709	3.40	2	1 1/8 x 2	1 3/16 x 1 3/16	2 1/2	3/16	23
10709	4.80	2 1/2	1 1/8 x 2	1 3/16 x 1 3/16	3	3/16	30

Darnell Furniture Casters

Plate Top Style



Load limit, 50 pounds each.
With oil-less bearing wheel.
For attaching with four bolts
or screws.
Standard finish, black.

With 1 3/4-Inch Wheel

No. U-3-7-DN, Neoprene
Wheel.....per set of 4 \$5.10
No. U-3-7-H, Hard Rubber
Wheel.....per set of 4 4.70

With 2-inch Wheel

No. US-3-9-DN, Neoprene Wheel.....per set of 4 \$5.80
No. US-3-9-H, Hard Rubber Wheel.....per set of 4 5.40

Darnell Neoprene and Hard Rubber Furniture Casters

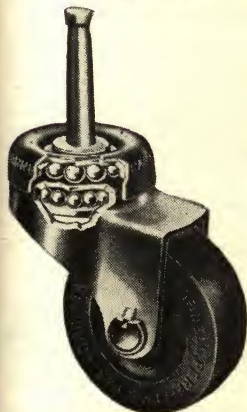
For hotel and household beds, dressers, davenport, dining room tables; also swivel chairs.

Oil-less bearing wheels, double ball bearing swivel. Stem and socket type oxidized finish. Furnished with S-stem and toothed track plate No. 4.

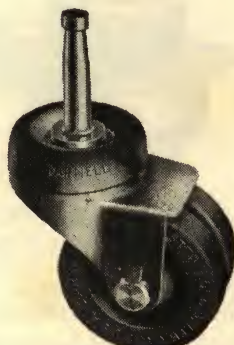
No.	U-7-H	U-7-DN	U-9-H	U-9-DN
Per Set of 4....	\$4.70	5.10	5.40	5.80
Type... Rub.	Neo.	Rub.	Neo.	
Wheels:				
Dia. in..	1 3/4	1 3/4	2	2
Wdth. in.	3/4	3/4	3/4	3/4
Ht. in..	2 3/8	2 3/8	2 5/8	2 5/8
Wt.				
Set. lb.	1 1/4	1 1/4	1 1/2	1 1/2



Darnell Office Chair Casters



No. U-50-DN



No. U-52-H

Swivel double ball bearing wheel, oil-less graphite composition. Swivel takes care of lateral thrust caused by offset of wheel. DN caster is designed for all types of floors and floor coverings except carpets. H caster is for use on carpets. With S stem and No. 4 socket. Black finish.

Hard Rubber Tread

No.	U-50-H	*U-52-H
Per Set of 4.....	\$7.05	8.25
Wheel Diam., and Width.....in.	2x3 3/4	2x7 1/6
Approximate Height.....in.	2 1/8	2 1/8
Weight per Set.....lb.	2 3/8	2 1/2

Neoprene (Soft Rubber) Tread

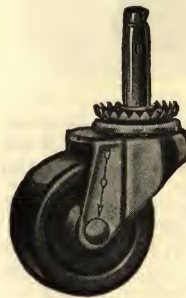
No.	U-50-DN	*U-52-DN
Per Set of 4.....	\$7.45	9.05
Wheel Diam., and Width.....in.	2x3 3/4	2x7 1/6
Approximate Height.....in.	2 1/8	2 1/8
Weight per Set.....lb.	2 3/8	2 1/2

*Has twin rubber wheels; width shown of one wheel only.

Series 69 Bassick Gripneck Casters

Diamond Arrow—Full Floating—Swivel Construction

Two-level ball race construction. With Baco soft rubber tread for linoleum, asphalt tile, composition, cement, wood floors. Atlasite solid tread for use on rugs, carpets, all floors.
Ball bearing.



No.	Baco Soft Tread Rubber		Atlasite Solid Tread Wheel	
	7696	9696	7699	9699
Per Set of 4....	\$3.00	3.60	2.80	3.40
Size.....	7	9	7	9
Wheel Diam.in.	1 5/8	2	1 5/8	2
Tread Width.in.	3/4	1 1/16	3/4	1 1/16
Bore for Socket.....in.	3/8	3/8	3/8	3/8
Weight per Set.....oz.	19	23	19	23

Series 63 Bassick Universal Standard Ball-Bearing Grip-Neck Socket Casters

Designed for use on all types of wood furniture or wherever there is a demand for a caster and sufficient depth of wood to take a socket drilling.

Furnished with plain steel finish and steel wheels, or with brass finish with Atlasite solid tread wheels; specify when ordering.

Packed six sets of 4 in a box.



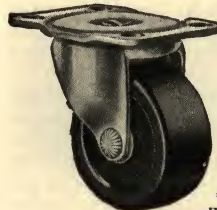
No.	Steel Wheels		Atlasite Wheels	
	5635	7635	5639-B	7639-B
Per Set of 4....	\$1.74	.88	.80	.95
Wheel Diam.in.	1 1/4	1 5/8	1 1/4	1 5/8
Tread Width.in.	5/8	3/4	5/8	3/4
Bore for Socket in.	3/8	3/8	3/8	3/8
Wt. per Set...oz.	11	14	11	14

Series 62 Bassick Swivlo Ball Bearing Steel Plate Casters

A utility plate caster. Low in overall height and strong center pin construction.

Furnished with bright steel finish with steel wheels, or with brass finish with Atlasite non-marking wheels; specify when ordering.

Packed six sets of 4 in a box.



No.	*Iron Wheels	Steel Wheels		Atlasite Wheels	
	5621	5625	7625	5629-B	7629-B
Per Set of 4.....	\$.94	.72	.88	.80	.95
Wheel Diam...in.	1 1/4	1 1/4	1 5/8	1 1/4	1 5/8
Tread Width.in.	5/8	5/8	3/4	5/8	3/4
Ht. Over.....in.	2 1/32	2 1/32	2 3/32	2 1/32	2 3/32
Size of Plate...in.	1 3/16x1 3/4	1 3/16x1 3/4	1 1/2x2 1/8	1 3/16x1 3/4	1 1/2x2 1/8
Wt. per Set...oz.	12	13	16	12	16

*Plain steel finish.

Bassick Rubber Cushion Slides



For chairs, porch furniture, tables, etc. Makes them slide quietly. Made with heavy gage, hardened steel base, and resilient live rubber cushion. Sharp nail drives easily with hammer. Nickel plated finish. Packed 6 sets in a box.

No.	With Nails				Stainless Steel	
	CG-90	CG-91	CG-92	CG-93	CG90SS	CG91SS
Per Set of 4.	\$.35	.42	.62	.76	.60	.66
Diam. Base.....in.	7/8	1 1/16	1 1/4	1 1/2	7/8	1 1/16
Weight per Set...oz.	1.3	2.5	2.5	4.3	1.3	2.5

**Bassick NoMar Desk Cups
For Square Desk Legs**



Protects linoleum and composition floor covering from the sharp edges of desk legs. Made of atlasite, which will not break, crack or chip. Cannot rust or become discolored and will retain the soft brown mahogany color.

Neat in appearance, yet inconspicuous.

No.	NDC-125	NDC-225	NDC-325
Per Set of 4.....	\$.96	1. 16	1. 60
Size of Opening.....inches	1½	1¾	2
Weight, per Set.....ounces	6	7	12

**Bassick NoMar Desk Cups
For Round Desk Legs**

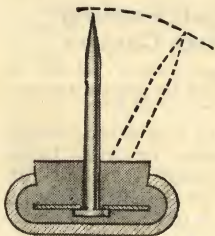
Use of desk cups gives protection to linoleum and composition floor coverings.



Made of atlasite which will not break, crack, or chip. Cannot rust or become discolored and will always retain the soft brown mahogany color. Neat in appearance, yet inconspicuous.

No. NDC-6 is suited for use as a caster cup as well as a desk cup, or for use under stove legs, radiator legs, etc. A slightly curved depression in the bottom of cup holds the caster wheel securely in place.

No.	NDC-6	NDC-7
Per Set of 4.....	\$.65	.75
Diameter of Opening.....inches	1¾	1½
Weight, per Set.....ounces	3	4



Darnell Noiseless Glides

For use on light furniture. Absorbs noise on hard floorings and adds years to the life of floors and floor coverings. Gunmetal finish.

Flexible construction permits chairs to be tilted, while glides remain flat on floor. Smooth, hardened steel base; soft rubber cushion absorbs noise and vibration.

Nail Stem for Wood Furniture

No.	N-1-S	N-2-S	N-3-S	N-5-S
Per Set of 4.....	\$.60	.70	.90	1.30
Diam. Base.....inches	¾	1¼	1¼	1½

Threaded Stem for Metal Furniture

No.	L-2-S	L-3-S	L-5-S
Per Set of 4.....	\$.70	.90	1.30
Diam. Base.....inches	1¼	1¼	1½
Stem.....inches	8-32x¾	8-32x¾	8-32x¾

Domes of Silence



Made of high grade hardened steel, specially treated to give frictionless surface.

In sizes: ¾, 1, 1½, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.

Packed in 2 styles, assorted or straight. Assortment D-19 sizes are stocked 1 dozen sets each ¾, 1, 1½ and 2-inch. Straight sizes packed ½ gross sets of one size in display box.

Order by sizes, or if small assortment, order D-19.	
Assortment D-19.....per ½ gross sets	\$3.00
Straight Sizes ¾ to 2-Inch.....per gross sets	9.00
Straight Sizes 1½-Inch.....per gross sets	13.50
Straight Sizes 2-Inch.....per gross sets	27.00

In Bulk

Sizes ¾ to 1-inch are packed 1000 sets of a size in a package; 1½ and 2-inch, 500 sets in a package.	
¾ to 1-Inch.....per 1000 sets	\$30.00
1½-Inch.....per 1000 sets	65.00
2-Inch.....per 1000 sets	130.00

**Bassick NoMar Furniture Rests
With Socket Attachment**



Fits standard ¾-inch grip-neck caster sockets. To replace casters, simply pull out the caster and slip in the furniture rest. Furnished with grip-neck sockets.

A tilting joint allows the broad, flat base to remain flat on the floor when the furniture is tilted.

The base is of atlasite, a special hard material which will not break or chip. The base should be slightly larger than the bottom of the leg.

Packed 1 set, consisting of 4 pieces, in a box.

No.	NR-2	NR-3	NR-4
Per Set of 4.....	\$.88	1.40	1.75
Diameter of Base.....inches	1½	2	2½
Weight per Set.....ounces	5	7	10

**Schatz Acme Ball Bearing
Furniture Stem Casters**



This grip neck caster is constructed so that one large surface ball comes in contact with the floor. It is held in a cup and revolves upon a number of other smaller anti-friction balls that move upon a steel cup-shaped disc.

Set consists of 4 casters.

Packed 1 set in a box; 100 sets in a case.

Size Ball In.	No. 658 Brassed Per Set	No. 658-B Black Per Set	No. 659 Nickel Per Set	No. 660 Galv. Per Set
¾	\$1.35	\$1.35	\$1.35	\$1.35
1	1.35	1.35	1.35	1.35
1½	1.50	1.50	1.50	1.50
2	1.65	1.65	1.65	1.65

**No. 6568 Schatz Acme Ball Bearing Furniture
Plate Casters**



This caster is constructed so that one large surface ball comes in contact with the floor. It is held in a cup and revolves upon a number of other smaller anti-friction balls that move upon a steel cup-shaped disc.

Will not tear rugs or carpets nor mark floors.

Set consists of 4 casters.

Packed 1 set in a box; 100 sets in a case.

Size Ball.....inches	¾	1	1½	2
Per Set.....	\$1.30	1.30	1.35	1.50
Cubic Feet per 100 Sets.....	.90	1.65	1.65	1.65
Gross Weight per 100 Sets .lb.	36	75	93	110

**Locks and Builders'
Hardware**

In addition to the locks and builders' hardware illustrated in this book, we carry an extensive stock and invite your inquiries for all of the items kindred to this line. Tell us your requirements.

U.S. Royalite Plastic Garden Hose
Style P331, Red Style P332, Green



Fits all standard faucets. Made of plastic. Lightweight yet tough. Resists cuts, bruises, and abrasion. High grade polished nickel, full flow coupling. Sparkling, non-fading red or green colors. Length, 25, 50 and 75 feet coupled.

Each length neatly coiled on a cardboard disc. Shipped in master cartons containing twenty 25-foot lengths, ten 50-foot lengths, or five 75-foot lengths. Weight per 100 feet, 13 pounds.

U. S. Neptune All-Purpose Rubber Garden Hose



One-ply rayon reinforced construction for extra strength, plus flexibility. Fluted cover. Unusually resistant to abrasion and sun.

In black and red colors.

Size, $\frac{5}{8}$ inch. Lengths, 25 and 50 feet coupled. Also available uncoupled in lengths of approximately 500 feet.

Shipped in bales containing five 50-foot, or ten 25-foot lengths. Also, 500-foot uncoupled coils.

Weight, per 100 feet uncoupled; red, 26 pounds; black, 24 pounds.

U. S. Rainbow Rubber Garden Hose
Style P305, Black Rubber Cover
Style P317, Green Synthetic Rubber Cover
2-Braid Construction



A tough, rugged hose. Two plies of extra-strong braid. Brass, full flow knurled grip couplings.

Black available in $\frac{5}{8}$ and $\frac{3}{4}$ inch.

Green available in $\frac{5}{8}$ inch only.

Lengths 25 and 50-ft. coupled, shipped in bales containing five 50-ft. or ten 25-ft. lengths of one size. Also available uncoupled in coils of 500 ft., either size.

Size.....inches $\frac{5}{8}$ $\frac{3}{4}$
Approx. Weight per 100 Foot.....pounds 30 34

No. P-340 U.S. Rainbow Molded Water Hose

2-Braid Construction



Molded braided construction.

Plies of braided rayon yarn are united by layers of rubber. Inner tube and cover are seamless; made of durable stock. Made in continuous lengths.

Size I.D.....in. $\frac{1}{2}$ $\frac{3}{4}$ 1 $1\frac{1}{4}$ $1\frac{1}{2}$
Approx. O.D.....in. $\frac{5}{8}$ $1\frac{1}{8}$ $1\frac{3}{8}$ $1\frac{5}{8}$ $1\frac{7}{8}$
Approx. Working Pressure...lb. 150 150 150 150 150
Weight per 100 Feet....pounds 27 42 51 75 77

No. P-636 U.S. Matchless High Pressure Water Hose



For road building, construction work, steel mills, mines, railroads, etc. Fine rubber tube, resilient for flexibility. Two-braid construction for great resistance to high pressure. Thick red high tensile rubber cover. Maximum length, 50 feet.

Size.....inches $\frac{3}{4}$ 1 $1\frac{1}{4}$ $1\frac{1}{2}$ 2
Approx. O.D....in. $1\frac{1}{32}$ $1\frac{19}{32}$ $1\frac{57}{64}$ $2\frac{1}{8}$ $2\frac{25}{8}$
Material..... Rayon Rayon Ustex Ustex Ustex
Approx. Work.
Press....pounds 300 225 200 200 200

U. S. Bengal Water Hose
Spec. H-3400



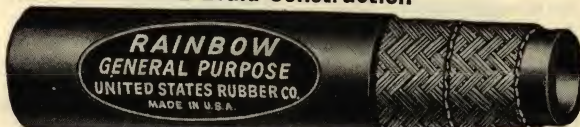
For average service.

Wrapped duck construction on a sturdy rubber tube. Over all is a durable outer rubber cover.

Maximum length, 50 feet.

Size Inches	Ply	Approx. O.D. In.	Approx. Working Pressure Lb.	Size Inches	Ply	Approx. O.D. In.	Approx. Working Pressure Lb.
$\frac{1}{2}$	3	$\frac{57}{64}$	200	$\frac{1}{2}$	4	$\frac{21}{32}$	125
$\frac{3}{4}$	3	$\frac{15}{32}$	150	2	4	$\frac{29}{16}$	100
$\frac{3}{4}$	4	$\frac{113}{64}$	200	$2\frac{1}{2}$	4	$\frac{31}{16}$	80
1	4	$\frac{129}{64}$	150	3	4	$\frac{319}{32}$	75
$1\frac{1}{4}$	4	$\frac{125}{32}$	150	4	4	$\frac{419}{32}$	50

No. P-290 U.S. Rainbow General Purpose Hose
2-Braid Construction



Tough molded finish red synthetic rubber cover resists the abrasion of concrete floors, sidewalks and streets. Reinforced with two braids of high-strength rayon. Tube is of oil resistant synthetic.

Furnished in continuous lengths up to 500 feet.

Size.....in. $\frac{1}{2}$ $\frac{5}{8}$ $\frac{3}{4}$ 1 $1\frac{1}{4}$ $1\frac{1}{2}$
O.D.....in. $\frac{31}{32}$ $\frac{13}{32}$ $\frac{17}{32}$ $\frac{131}{64}$ $\frac{113}{16}$ $\frac{21}{8}$
Working Pressure...lb. 250 250 250 250 200 150
Weight per 100 Feet...lb. 35 41 47 60 81 89
*Red natural rubber.

No. P-271 U.S. 4810 Air Drill Hose



Two or three-braid construction for service on rock drills in mines and quarries, and in general construction operations. It is flexible, easy to handle.

The oil-resisting tube in this hose is tough, resilient, and will not crack or become porous. The wall structure of the hose is made up of the strongest rayon obtainable, which insures its great pressure-resisting strength. The thick cover is compounded to withstand severe abrasion.

Maximum length, 50 feet.

Size.....inches $\frac{3}{8}$ $\frac{1}{2}$ $\frac{3}{4}$ 1 $1\frac{1}{4}$ $1\frac{1}{2}$ 2
Approx. O.D....inches $\frac{7}{8}$ $1\frac{1}{32}$ $1\frac{1}{2}$ $1\frac{19}{32}$ $1\frac{31}{32}$ $2\frac{1}{8}$ $2\frac{23}{8}$
No. Braids..... 2 2 2 2 3 3 3
Approx. Work.
Press.....lb. 350 350 350 300 225 200 150

U.S. Rainbow General Purpose Small Hose



Welding or cutting air hose of small diameter. Light weight, flexible, will not kink or remain flattened if crushed. Covers are furnished in black, red or green. Red cover is generally used for gas or acetylene line; black or green for oxygen line. Supplied in lengths up to 500 feet.

Style P-282, With Smooth Covers
Recommended Working Pressure, 300 Pounds

Two braid rayon, furnished in red or black cover.				
Size.....inches	1/4	5/16	3/8	
Approximate O. D.....inches	39/64	43/64	47/64	

Style P-283, with Corrugated Covers

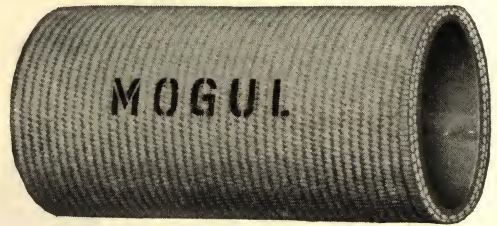
Furnished in red, black or green covers.

1 Braid				
Size.....inches	3/16	1/4	5/16	3/8
Approx. O. D.....inches	1/16	31/64	39/64	43/64
Recommended Work. Press....lb.	250	250	250	250

2 Braid				
Size.....inches	1/4	5/16	3/8	
Approx. O. D.....inches	5/8	11/16	3/4	
Recommended Work. Pressure....lb.	300	300	300	

* Furnished in red and black only.

No. P-259 U.S. Mogul Mill Hose



Constructed with a calendered rubber tube assuring a smooth waterway, reducing loss by friction.

The woven fabric used is of high quality, long fiber cotton, securely vulcanized to tube; fabric is chemically treated as a protection against mildew and rot.

Test pressure on delivery, 200 pounds.

Furnished in 50-foot lengths.

Size.....inches	1 1/2	2	2 1/2
No. P-259, Single Jacket.....per foot			
Weight per 100 Feet.....pounds	38.4	51.4	68.2

No. P-263 U.S. Perfected Steam Hose



Multiple plies of cotton duck with additional heavy, heringbone, seamless cotton braid under heat and oil resisting cover. Lightweight and specially designed construction. Maximum length, 50 feet. Maximum saturated steam pressure, 75 pounds, (320°F).

Size.....inches	1/2	3/4	1	1 1/4	1 1/2	2
Per Foot.....						
No. of Plies.....	4	5	5	5	6	6
Approx. O.D.....inches	1 3/16	1 17/32	1 25/32	2 3/32	2 13/32	2 31/32

Static wire optional, no extra charge. Specify on order.

U.S. Cotton Rubber Lined Fire Hose

Single and Double Jacket
Underwriters' Specifications

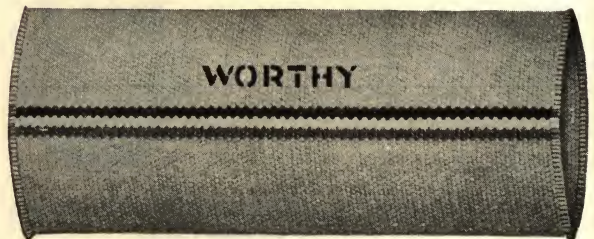


Built to specifications of National Board of Fire Underwriters and Associated Factory Mutual Fire Insurance Companies. Double jacket is for fire protection in industrial plants where high pressures are involved, single jacket for lower pressures and less severe duty.

Furnished in 50-foot lengths. Double jacket furnished in 1 1/2, 2, 2 1/2 and 3-inch sizes; guaranteed test pressure on delivery, 400 lb. Single jacket furnished in 1 1/2, 2 and 2 1/2-inch sizes; guaranteed test pressure on delivery, 300 lb.

Furnished when specified with wax and gum treatment which makes it impervious to absorption of moisture and prevents mildew and rot. Also available unlabelled.

U.S. Worthy Unlined Linen Hose



For emergency fire protection only. This hose is not intended to withstand frequent service and is not suitable for use where the fabric will be subjected in service to chafing, or to rough or sharp surfaces. Should be kept dry. Will not deteriorate on the rack and is light and strong.

Made of long fiber flax line, is circular woven under heavy tension. When wet it will swell slightly, closing all pores in the weave, providing a practically leakless hose.

Will meet the specifications of Associated Factory Mutual Insurance Companies of Boston, Underwriters' Laboratories, Chicago, and any local board of Underwriters.

Made in 1 1/4, 1 1/2, 2 and 2 1/2-inch sizes in standard lengths of 25 or 50 feet; also available in lengths up to approximately 300 feet. Prices upon request.

U.S. Cloth Inserted Small Hose



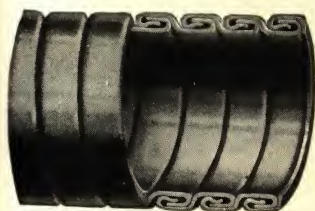
No. TC-5021

For general air service on bicycle pumps, etc. Has black cover, tube, and friction. Maximum length, 50 feet. Sizes 3/16 to 1/2-inch inclusive, as ordered.

No. TC-7911

For beer pumps, soda water and bottling purposes. Has red cover, white tube of a specially compounded odorless rubber that will not taint liquid passing through the line. Black friction. Maximum length, 50 feet. Sizes, 3/16 to 3/8 inch, as ordered.

Penflex Interlocked High Pressure Galvanized Steel Hose



For water, steam, air, heavy gases, oil, tar, asphalt, paint and similar materials under pressure and temperature. Also for supply lines, ship or truck unloading, etc. Pressure tight construction.

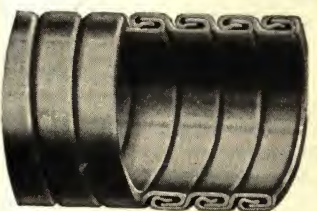
When ordering specify

hose weight number and coupling type.

Size Inches	Per Foot	I.D. Bend Inches	Hydrostatic Test Pressure Per Square Inch, Lb.	Approx. Weight Pounds Per Foot
1/2	\$.60	10	500	.35
3/4	.90	13	500	.75
1	1.10	16	500	1.00
1 1/4	1.30	20	400	1.40
1 1/2	1.50	25	400	1.85
2	1.75	28	300	2.60
2 1/2	2.25	32	300	2.90
3	2.70	40	250	4.00

Type M-100 Penflex Asbestos Packed Interlocked Hose

Bronze—Weight No. 2



For water, steam, air, heavy gases, oil, tar, asphalt, paint and similar materials under pressure and temperature. Also for supply lines, ship or truck unloading, etc. Pressure tight construction.

When ordering specify

hose weight number and coupling type.

I.D. In.	Per Foot	Metal Gage In.	Bending Radius In.	Approx. Weight Pounds Per Foot
1/2	\$1.15	.018	5	.385
3/4	1.90	.022	6 1/2	.825
1	2.25	.026	8	.99
1 1/4	3.10	.031	10	1.54
1 1/2	4.00	.035	12 1/2	2.035
2	5.20	.035	14	2.86
2 1/2	6.20	.035	16	3.19
3	8.20	.039	20	4.40

Penflex 2430 Interlocking Joint Tubing



For automobile heater and exhaust connections. Made from galvanized steel .010 inch to .012 inch thick; light weight. Also built in bronze.

Four-wall construction assures a strong and serviceable connection even though flexed to its extreme limit.

Special sizes of tubing not shown will take the price of the nearest larger listed size.

Prices apply on tubing measured when fully extended.

Cut lengths with the tubing measured compressed will be considered as the specified length plus 33 1/3 per cent. Tubing made from heavier metal can be supplied. Prices on application.

I.D. In.	Unpacked O.D. per 100 In. Ft.	I.D. In.	Unpacked O.D. per 100 In. Ft.	I.D. In.	Unpacked O.D. per 100 In. Ft.
1/2	\$21.30	1 1/8	\$59.60	2 3/4	\$109.20
9/16	23.40	1 1/16	61.70	2 13/16	111.80
5/8	25.60	1 3/8	63.90	2 7/8	114.40
11/16	27.40	1 5/8	66.00	2 15/16	117.00
3/4	29.20	1 7/8	68.30	3	119.50
13/16	31.90	1 15/16	70.40	3 1/8	124.00
7/8	34.60	2	72.50	3 1/4	128.40
15/16	36.70	2 1/16	75.10	3 3/8	137.50
1	38.90	2 1/8	77.70	3 1/2	146.10
1 1/16	41.30	2 3/16	79.40	3 3/4	156.00
1 1/8	43.80	2 1/4	81.20	4	165.90
1 1/4	45.90	2 5/16	83.20	4 1/4	175.90
1 1/2	47.90	2 3/8	85.30	4 1/2	186.00
1 5/8	50.10	2 1/2	87.20	5	206.10
1 3/4	52.10	2 5/8	89.10	6	246.70
1 7/8	53.70	2 7/8	96.80	7	288.90
1 15/16	55.30	2 3/4	104.50	8	331.10
1 11/16	57.50	2 11/16	106.90	.....	.....

Available cotton cord or asbestos packed at additional cost.

No. M-104 Penflex Metal Hose



Type FP. For conveying steam, air, oil, cutting compounds, or other liquids not corrosive to the basic metals.

Made of galvanized steel or bronze, asbestos packed. Wire braiding is recommended when hose is subject to torsion, or when lengths exceed 3 feet. Wire winding is recommended when braided hose is subject to abrasion.

Bronze				Steel			
I.D. In.	Per Foot	Metal Gage In.	Bending Radius In.	Approx. Weight Per Ft. Lb.	Per Foot	Bending Radius In.	Approx. Weight Per Ft. Lb.
3/16	\$.28	.011	4.5	.077	\$.22	4.5	.07
1/4	.40	.013	5	.1485	.26	5	.135
5/16	.45	.013	6	.176	.28	6	.160
3/8	.58	.016	7	.262	.33	7	.238
1/2	.76	.020	8	.297	.43	8	.270
3/4	1.30	.022	9	.583	.54	9	.530
1	1.83	.022	12	.946	.86	12	.860

Steel or Bronze Wire Braid

When more than one braid is applied, the second braid takes the price of the first plus 10 per cent; the third, the price of the second plus 10 per cent, etc.

Steel			Bronze		
I.D. In.	Per Foot	Approx. Weight Per Ft. Lb.	Per Foot	Approx. Weight Per Ft. Lb.	Approx. Weight Per Ft. Lb.
3/16	\$.40	.06	\$.50	.066	.066
1/4	.45	.063	.65	.069	.069
5/16	.50	.080	.75	.088	.088
3/8	.67	.13	1.00	.143	.143
1/2	.86	.20	1.45	.222	.222
3/4	1.40	.25	2.40	.275	.275
1	1.72	.30	3.20	.330	.330

U. S. Machine Made Rubber Tubing



Recommended for ordinary service. This tubing can also be supplied for service such as conveying chemicals, resisting the action of butter fats, or for pressure work.

Made with a smooth surface.

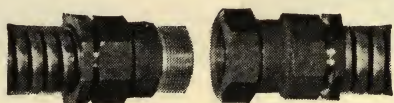
Regularly furnished in black.

Standard stock sizes from 1/16 to 1 inch I.D. with wall thickness from 1/32 to 3/16 inch.

In lengths of 50 feet; longer lengths can be supplied for special purposes.

Prices upon application.

Penflex New York Packed Brass Heatproof Couplings



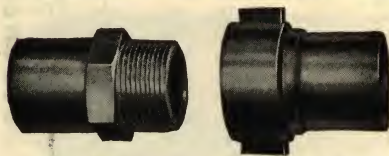
For use with interlocked bronze or steel hose type M-100. Recommended for temperatures over 250°F.

Male and female couplings equipped with American Standard pipe threads. Hose inside diameter governs coupling thread size.

When ordering, specify part number.

Hose—I.P.T.			No. 5202 Male			No. 5204 Swivel Female		
I.D. In.	Style No.	Size In.	Part No.	Loose Each	Att. Each	Part No.	Loose Each	Att. Each
3/4	2	3/4	4-303-12	\$1.85	\$3.45	4-304-12	\$3.10	\$4.75
1	2	1	4-303-16	3.35	5.05	4-304-16	5.05	6.75
1 1/4	2	1 1/4	4-303-20	4.00	6.15	4-304-20	6.05	8.15
1 1/2	2	1 1/2	4-303-24	4.65	7.30	4-304-24	8.40	11.10
2	2	2	4-303-32	6.75	9.75	4-304-32	11.50	14.50
2 1/2	2	2 1/2	4-303-40	10.50	14.75	4-304-40	15.05	19.35
3	2	3	4-303-48	12.05	17.40	4-304-48	19.35	24.70
4	10	4	4-301-64	.....	22.20	4-302-64	.....	33.20
4	15	4	4-305-64	.....	22.20	4-306-64	.....	33.20

Penflex Soldered Type Brass Couplings



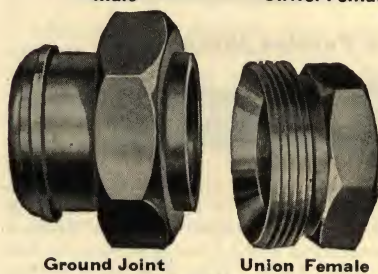
For use with type
hose indicated by
table, steel or
bronze.

Recommended for temperatures not exceeding 250° F.

Hose inside diameter governs coupling thread size.

When ordering,
specify part No.

*Swivel nut type
with washer.



Ground Joint

Union Female

No. 5902					No. 5905				
I.D.	Style	Soldered-on Male			N. Y. Union Female				
		Part No.	Loose Each	Att. Each	Part No.	Loose Each	Att. Each		
	1/2	2	1901-2-73	\$.70	\$1.67	13-302-73	\$1.30	\$2.25	
	3/4	2	1903-3-12	1.02	2.25	13-302-12	1.95	3.15	
1		2	1903-3-16	1.70	3.45	13-302-16	3.10	4.85	
	1 1/4	2	1903-3-20	2.25	4.20	13-302-20	4.60	6.55	
	1 1/2	2	1903-3-24	2.60	5.15	13-302-24	5.80	8.40	
2		2	1903-3-32	3.85	6.65	13-302-32	7.95	10.75	
	2 1/2	2	1903-3-40	6.70	10.20	9-308-40	11.30	*14.75	
3		2	1903-3-48	8.15	12.70	9-308-48	13.75	*18.25	

No. 5902				No. 5903			
I.D. Style In. No.		Soldered-on Male		Tank Wagon Female			
		Part No.	Loose Each	Att. Each	Part No.	Loose Each	Att. Each
4	10	1901-3-64	\$8.90	\$14.40	9-308-64	\$15.50	\$21.00
4	12	1903-3-64	8.90	14.40	9-310-64	15.50	21.00
4	15	1905-3-64	8.90	14.40	9-312-64	15.50	21.00
5	10	1901-3-80	14.20	20.50	.....	.....	.....
5	12	1903-3-80	14.20	20.50	.....	.....	.....
5	15	1905-3-80	14.20	20.50	.....	.....	.....
6	10	1901-3-96	18.70	27.10	.....	.....	.....
6	12	1903-3-96	18.70	27.10	.....	.....	.....
6	15	1905-3-96	18.70	27.10	.....	.....	.....
8	15	1903-3-128	26.50	37.60	.....	.....	.....
8	20	1905-3-128	26.50	37.60	.....	.....	.....
10	15	1903-3-160	33.20	47.00	.....	.....	.....
10	20	1905-3-160	33.20	47.00	.....	.....	.....
12	15	1903-3-192	41.50	59.20	.....	.....	.....
12	20	1905-3-192	41.50	59.20	.....	.....	.....

Style MX-16 Boss Male Hose Couplings

**Cadmium-Plated—Rustproof
Companion Male Coupling for Style X-34 Ground Joint
and Style W-16 Washer Type Female Couplings**



MX-16
Male Coupling with I.P.T.
—Size $\frac{3}{4}$ Inch and Smaller
2-Bolt Clamp

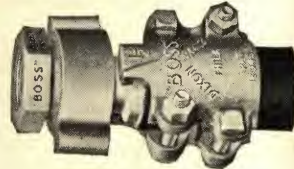
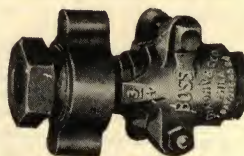
MX-16
Male Coupling with I.P.T.
—Size 1 Inch and Larger—
4-Bolt Clamp

For high or low pressure service: handling butane, oil, ammonia, for hydraulic hose, steam, air, etc. Complete coupling includes all parts to couple one end of hose.

Hose and I.P.T. Size Inches	Complete Coupling Each	Parts		Weight Pounds Complete Coupling
		Male Stem Each	Clamp Each	
1/4	\$.66	\$.48	\$.18	.23
3/8	.75	.51	.24	.37
1/2	.91	.55	.36	.65
3/4	1.39	.85	.54	1.30
1	1.73	.95	.78	2.60
1 1/4	2.76	1.32	1.44	3.90
1 1/2	3.36	1.56	1.80	4.70
2	4.92	2.40	2.52	7.50
2 1/2	9.60	4.80	4.80	12.70
3	13.90	7.40	6.50	18.00
4	29.00	13.00	16.00	33.00
6	54.00	21.50	32.50	40.00

Style W-16 Boss Washer Type Female Hose Couplings

Cadmium-Plated—Rustproof



**Female Coupling with
I.P.T. Spud and Washer
Size $\frac{3}{4}$ Inch and Smaller
2-Bolt Clamp**

**Female Coupling with
I.P.T. Spud and Washer
Size 1 Inch and Larger
4-Bolt Clamp**

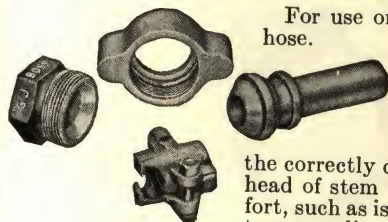
In non-ferrous metals for services prohibiting use of steel and malleable iron. For high and low pressure service on steam, air, water, oil, hydraulic and gas hose.

Hose and I.P.T. Size In.	Complete Coupling Each	Parts					Asbestos Washers 100	Leather Washers 100	Wt. Lb. Complete Coupling	
		Stem Each	Wing Nut Each	Female Spud Each	Clamp Each					
1/4	\$1.14	\$.30	\$.30	\$.36	\$.18	\$.96	\$2.58		.38	
3/8	1.32	.36	.36	.36	.24	1.20	3.12		.57	
1/2	1.65	.45	.42	.42	.36	1.98	3.72		1.00	
3/4	2.80	.85	.72	.69	.54	3.00	10.08		2.80	
1	3.10	.91	.72	.69	.78	3.00	10.08		3.60	
1 1/4	5.34	1.50	1.20	1.20	1.44	3.42	10.32		6.30	
1 1/2	5.76	1.56	1.20	1.20	1.80	3.60	10.32		6.80	
2	8.82	2.22	1.92	2.16	2.52	5.28	17.10		10.70	
2 1/2	16.98	4.50	3.60	4.08	4.80	6.84	45.24		19.00	
3	21.80	5.40	4.80	5.10	6.50	7.56	72.90		26.00	
4	46.50	9.00	9.25	12.25	16.00	8.58	80.34		49.00	
6	104.00	28.50	15.50	27.50	32.50	18.00	130.00		58.00	
Alternate Spuds										
Hose in.	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Male ea.	\$.54	.60	.72	1.08	1.08	2.10	2.22	3.36	5.88	8.00
Double ea.			.84	1.44	1.44	2.40	2.40	4.32	8.16	11.00

Style X34 GJ-Boss Ground-Joint Female Hose Couplings

Cadmium Plated—Washerless—Rustproof

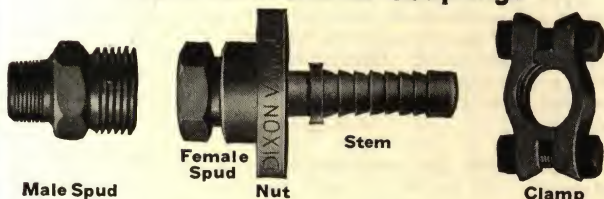
For use on steam, air or liquid hose.



The ingeniously inserted and finished copper seat of the spud effects a perfect seal against the correctly designed radius on the head of stem without any great effort, such as is needed with a washer type coupling.

Hose, I.P.T. Size, In.	Complete Coupling Each	Stem Each	Wing Nut Each	Female Spud Each	Clamp Each	Wt., Lb. Complete Coupling
1/4	\$1.50	\$.42	\$.36	\$.54	\$.18	.35
3/8	1.56	.42	.36	.54	.24	.60
1/2	1.83	.50	.42	.55	.36	1.00
3/4	3.16	.95	.72	.95	.54	2.80
1	3.45	1.00	.72	.95	.78	3.60
1 1/4	5.94	1.62	1.20	1.68	1.44	6.70
1 1/2	6.36	1.68	1.20	1.68	1.80	6.90
2	9.90	2.46	1.92	3.00	2.52	11.00
2 1/2	19.02	4.98	3.60	5.64	4.80	18.70
3	24.32	6.00	4.80	7.02	6.50	26.20
4	48.75	10.00	9.25	13.50	16.00	49.00
6	108.00	30.00	15.50	30.00	32.50	58.50

Dixon Air Hammer Couplings



For service on hand hammer and rock drills. Coupling consists of steel spud (male or female), corrugated steel stem, malleable iron wing nut, malleable iron clamp with dual gripping corrugations inside and reinforced bolt lugs; machine bolts with hex nuts and oil-treated leather washer. Spud has tapered iron pipe thread one end, same size as hose; other end fitting nut has adopted standard thread for this type coupling—8 threads per inch. Cadmium-plated.

Style WLD-7—Compact Type

Hose & I.P.T. Size In.	Comp. Female Spud Ea.	Comp. Male Spud Ea.	Approx. Wt. Lb.	Female Spud Each	Male Spud Each	Nut Each	Clamp Each	Washers Per 100
1/2	\$2.16	\$2.40	1.61	\$.66	\$.60	\$.84	\$.60	\$.30
3/4	2.22	2.46	1.85	.66	.60	.84	.60	.36

Style WHD-9—Heavy Type

Hose & I.P.T. Size In.	Comp. Female Spud Ea.	Comp. Male Spud Ea.	Approx. Wt. Lb.	Female Spud Each	Male Spud Each	Nut Each	Clamp Each	Washers Per 100
3/4	\$2.94	\$3.30	3.00	\$.90	\$.72	\$1.08	\$.96	\$.36
1	3.18	3.54	3.35	.90	.72	1.08	.96	.60

*For 3/4-inch hose with o.d. greater than 1 1/8 inch, a 7/8-inch clamp (Part J-49-X) is furnished at no extra cost.

Dixon Air King Clamps



Light weight, compactly designed. Extended fingers engage the collar on nipple

shank, securely anchoring the coupling to the hose. Thoroughly rustproofed by cadmium plating. Furnished complete with square head machine bolts and hex nuts.

No.	Each	Size In.	Fits Hose, O.D. —INCHES—	Wt. Lb. per 100
CD	\$.24	3/8	3/4 to 7/8	22
A-4	.31	1/2	1 to 1 1/8	32
A-9	.42	3/4	1 1/8 to 1 1/2	49
A-10	.42	1 1/8	1 1/2 to 1 3/4	52
A-14	.66	1	1 1/2 to 1 3/4	80

King Combination Nipples

I.P.T. Nipple With Shank for Straight End Hose



For use where iron pipe nipples are desired for suction and all other styles of hose. Portion of nipple extending out of hose is exactly like an i.p. nipple. Shank or hose end is of patented "COR-O-ZIG" Design—spirally grooved for half its length, with zig-zag corrugations on remaining half—a combination that makes it easier to insert, gives greater gripping strength and prevents nipple from turning in hose after clamps are tightened. Fits hose of same i.d. as size pipe.

Size Hose and I.P.T. In.	Steel Plain Each	Steel Cad. Plated Each	Mal. Iron Plain Each	Mal. Iron Cad. Plated Each	Brass Each	Lgth. Shank in Hose In.	Lgth. Overall In.
1/2	\$.36	\$.41	.....	.....	\$ .80	1 1/16	3 1/8
3/4	.43	.50	.....	.....	.90	1 3/4	3 1/4
1	.55	.62	.....	.....	1.00	2	3 3/8
1 1/4	.65	.75	\$.65	\$.75	1.65	2 1/8	3 11/16
1 1/2	.90	1.05	.85	1.00	2.30	2 3/8	4 1/4
2	1.10	1.30	1.20	1.40	2.75	2 1/2	4 7/8
2 1/2	1.90	2.30	2.00	2.40	5.40	2 7/8	5 1/2
3	2.80	3.25	3.00	3.45	8.75	3 3/8	6
4	4.45	5.25	4.85	5.65	14.50	3 7/8	7 1/4
5	9.45	10.50	10.00	11.00	20.50	5 3/8	9 3/4
6	12.20	13.50	12.75	13.05	39.00	6 1/2	11
8	28.00	30.50	29.50	32.00	60.00	7 3/4	12 1/2
10	38.00	42.00	.....	.....	78.00	7 3/4	12 1/2

Kelly Universal Quick Acting Hose Couplings



Dependable locking action. Can be connected or disconnected with less than one quarter turn. Any size hose can be coupled with any other size hose or pipe connection. Gaskets have flanged portion to set in deep ground finished recess to give air tight fit and prevent leaks and blowouts. All portions of locking surfaces completely finished and triple tested with hardened steel gages to insure perfect service.

Style TM—Malleable Iron, Parkerized and Rustproofed
Style K—Duro Bronze

Size In.	Male Pipe Thread End	Female Pipe Thread End	Hose Shank End
1	TM-1 .90 K-1	TM-6 .90 K-6	TM-11 .90 K-11
3/4	TM-2 .90 K-2	TM-7 .90 K-7	TM-12 .90 K-12
1/2	TM-3 .90 K-3	TM-8 .90 K-8	TM-13 .90 K-13
3/8	TM-4 .90 K-4	TM-9 .90 K-9	TM-14 .90 K-14
1/4	TM-5 .90 K-5	TM-10 .90 K-10	1.15

Description	Malleable Iron No.	Each
3-Way Coupling to Connect 1 Inlet to 2 Outlets.....	TM-33	\$2.25
Plug or Dead End for Temporarily Closing Any Outlet.....	TM-34	1.00
Safety Lock, Special Auxiliary Lock.....	TM-19	.18

No.	Each	Description
110	\$.08	Gaskets Neoprene, Air Oil-Steam, Gasket

In ordering, specify part number of end, half coupling. Do not order by sets.

King Rustproof Malleable Iron Single Bolt Hose Clamps



For all hose where a shank coupling or iron pipe nipple is used.

The sliding tongue is full width of Clamp. Cannot buckle and further assures a perfect leakproof seal. Has strong sturdy bolt lugs.

Thoroughly rustproofed by electrolytic application of cadmium.

No.	Per 100	FITS HOSE O.D. DIAM., IN.		Wt. Lb. per 100
		From	To	
2	\$12.80	7/8	1	6
3	15.20	31/32	1 1/8	8
4	17.10	1 1/16	1 3/16	10
5	19.00	1 5/32	1 3/4	11
6	20.50	1 1/4	1 3/8	13
7	21.20	1 11/32	1 7/8	14
8	21.80	1 7/16	1 15/16	16
9	22.60	1 11/32	1 11/16	17
10	24.15	1 21/32	1 3/4	19
11	25.75	1 3/4	1 7/8	21
12	27.30	1 7/8	2 1/32	23
13	29.60	2	2 1/8	28
14	32.00	2 1/8	2 3/32	29
15	33.50	2 1/4	2 13/32	30
16	35.05	2 3/8	2 1/2	36
17	36.25	2 1/2	2 5/8	38
18	38.20	2 5/8	2 7/8	42
19	41.30	2 7/8	3 1/16	44
20	43.80	3 1/16	3 1/4	46
21	45.10	3 1/4	3 1/16	48
22	51.80	3 1/16	3 5/8	77
23	53.50	3 5/8	3 13/16	83
24	69.25	3 13/16	4 1/8	90
25	79.30	4 1/8	4 5/16	100
26	89.35	4 1/4	4 1/2	106
27	93.15	4 7/16	4 5/8	112
27-X	100.70	4 5/8	4 7/8	114
28	107.00	4 7/8	5 1/4	120

King Double Bolt Hose Clamps



For use on oil, water or sand suction, concrete placing, oil or hydraulic discharge hose. Easily attached, will stand great strain. Will take care of a wide range of hose wall thickness. Permanently rustproof through electrolytic application of cadmium. Protects metal from rust and corrosion.

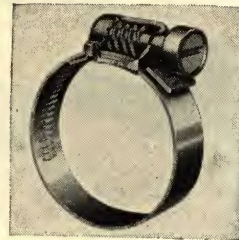
No.	Style KM3 Malleable Iron Each	Style KB4 Brass Each	WILL FIT HOSE OUTSIDE DIAMETERS, INCHES		Weight Pounds
			From	To	
400	\$1.40	\$2.80	3 1/2	4	1.7
463	1.52	3.04	4 1/16	4 7/16	1.8
525	2.10	4.20	4 7/16	5	2.6
550	2.30	4.60	5	5 1/2	2.6
600	2.45	4.90	5 1/2	6 1/16	2.7
675	2.80	5.60	6 1/8	6 7/8	3.1
769	3.35	6.70	6 15/16	7 5/8	3.5
818	3.90	7.80	7 11/16	8 3/16	4.5
875	4.40	8.80	8 1/4	8 7/8	5.7
988	4.90	9.80	8 15/16	9 7/8	6.5
1125	6.80	13.60	9 15/16	11 3/8	8.5
1275	8.40	16.80	11 7/16	13	12.
1450	11.65	23.30	13 1/16	15	14.7
1700	14.25	28.50	15 1/16	17 1/4	20.5

HOSE CLAMPS

I M P O R T A N T

Please specify the outside diameter of hose on all your hose clamp orders . . . This will insure your receiving the correct size clamps for your requirements.

Aero-Seal Worm Drive Hose Clamps



With Screwdriver Slot

The worm drive principle uses a special 10-pitch hardened steel worm, which engages perforations in the band, thus producing a true tangential pull to give a belt-like tightening action and uniform clamping pressure all around the hose. There is no distortion of the hose, no collapsing of thin-wall tubing, and no leakage under high pressures.

The band comes through the worm housing, providing extra long take-up and giving leeway to cover variations in hose.

Type QS100. For the great majority of applications. Band and saddle is of stainless steel and all other components are of heat-treated carbon steel with a highly corrosion-resistant finish. This provides for a high strength unit with a high degree of resistance to corrosion widely and successfully used in aircraft, automotive and industrial applications.

Type QS200. For maximum corrosion resistance and extra strength. All parts are made of stainless steel. Recommended for applications where extreme corrosive conditions may be encountered. Stainless steel clamps have exactly the same dimensions, construction and engineering features as the QS100 type clamps with the addition of greater strength and corrosion resistance.

Available with screwdriver slot or thumb grip on end of worm, and at the same price. Specify when ordering.

Sizes 7/16 inch to 2 13/16 inches inclusive are packed 50 in a box; sizes 3 1/16 to 3 3/16 inches, 30 in a box.

CLAMP DIAM. —INCHES—		*Fits Hose I.D. Inches (Std. 3/16-In. Wall)	Standard		All Stainless	
Min.	Max.		†No.	Per 100	†No.	Per 100
7/16	25/32	3/8, 5/16, 1/4	QS100-M6S	\$30.	QS200-M6S	\$45.
1/2	29/32	1/2, 3/8, 5/16	QS100-M8S	30.	QS200-M8S	45.
9/16	1 1/16	5/8, 1/2, 3/8	QS100-M10S	30.	QS200-M10S	45.
1 1/16	1 1/4	3/4, 5/8	QS100-M12S	31.	QS200-M12S	46.
1 3/16	1 1/2	1, 7/8, 3/4	QS100-M16S	31.	QS200-M16S	46.
1 3/16	1 3/4	1 1/4, 1	QS100-M20S	32.	QS200-M20S	47.
1 11/16	2	1 1/2, 1 1/4	QS100-M24S	32.	QS200-M24S	47.
1 5/16	2 1/4	1 3/4, 1 1/2, 1 1/4	QS100-M28S	33.	QS200-M28S	49.
1 9/16	2 1/2	2, 1 3/4, 1 1/2	QS100-M32S	33.	QS200-M32S	49.
1 11/16	2 3/4	2 1/4, 2, 1 3/4	QS100-M36S	35.	QS200-M36S	51.
2 1/16	3	2 1/2, 2 1/4, 2	QS100-M40S	35.	QS200-M40S	51.
2 5/16	3 1/4	2 3/4, 2 1/2, 2 1/4	QS100-M44S	38.	QS200-M44S	54.
2 9/16	3 1/2	3, 2 3/4, 2 1/2	QS100-M48S	38.	QS200-M48S	54.
2 13/16	3 3/4	3 1/4, 3	QS100-M52S	41.	QS200-M52S	57.
3 1/16	4	3 1/2, 3 1/4	QS100-M56S	41.	QS200-M56S	57.
3 5/16	4 1/4	.....	QS100-M60S	44.	QS200-M60S	61.
3 9/16	4 1/2	.....	QS100-M64S	44.	QS200-M64S	61.

*For hose with other wall thickness, choose smallest clamp to fit outside diameter.

†For screwdriver slot. For thumb grip, omit suffix "S."

Larger sizes to order.

No. 1923 Allenco Galvanized Steel Hose Clamps



Made of heavyweight, best quality strip steel.
Heavily galvanized to resist rust.
Top of clamp is formed to prevent nut from turning.

For Water Hose

Size In.	Ply	I.D. In.	Per Doz.	Size In.	Ply	I.D. In.	Per Doz.	Size In.	Ply	I.D. In.	Per Doz.
3/16	3	7/16	\$.60	3/4	4	1 13/16	\$.70	1 3/4	4	2 3/8	\$3.00
1/4	3	1 1/2	.60	3/4	5	1 1/2	.70	2	3	2 1/2	3.12
3/8	2	9/16	.60	1	2	1 5/8	1.16	2	4	2 5/8	3.12
3/8	3	5/8	.60	1	3	1 3/8	1.16	2	5	2 11/16	3.12
3/8	4	1 1/16	.60	1	4	1 1/8	1.16	2	*	3	4.16
1/2	2	3/4	.63	1	5	1 1/2	1.16	2 1/4	3	2 3/4	3.82
1/2	3	7/8	.63	1 1/4	2	1 5/8	2.20	2 1/4	4	2 13/16	3.82
1/2	4	15/16	.63	1 1/4	3	1 11/16	2.20	2 1/2	3	2 15/16	4.16
1/2	5	1	.63	1 1/4	4	1 13/16	2.20	2 1/2	4	3	4.16
5/8	2	1	.70	1 1/4	5	1 7/8	2.20	2 3/4	5	3 1/8	4.16
5/8	3	1 1/16	.70	1 1/2	3	2	2.54	2 3/4	4	3 1/4	5.32
5/8	4	1 1/8	.70	1 1/2	4	2 1/8	2.54	3	3 & 4	3 1/2	6.60
3/4	2	1 1/16	.70	1 1/2	5	2 3/16	2.54	...	...	...	...
3/4	3	1 1/8	.70	1 3/4	3	2 1/4	3.00	...	...	...	...

For Steam Hose

Size In.	Ply	I.D. In.	Per Doz.	Size In.	Ply	I.D. In.	Per Doz.	Size In.	Ply	I.D. In.	Per Doz.
1/2	4	1 1/16	\$1.12	1	5	1 3/4	\$2.28	1 1/2	6	2 3/8	\$3.22
1/2	5	1 1/16	1.12	1	6	1 13/16	2.28	2	4	2 5/8	4.98
1/2	6	1 1/4	1.12	1 1/4	4	1 15/16	2.62	2	5	2 3/4	4.98
3/4	4	1 3/8	1.44	1 1/4	5	2	2.62	2	6	2 7/8	4.98
3/4	5	1 7/16	1.44	1 1/4	6	2 1/16	2.62	2 1/4	4	2 15/16	5.54
3/4	6	1 1/2	1.44	1 1/2	4	2 1/4	3.22	2 1/4	5	3	5.54
1	4	1 11/16	2.28	1 1/2	5	2 5/16	3.22	2 1/4	6	3 1/16	5.54

*Suction.

No. 90 Cast Brass Steam Hose Couplings



Furnished with semi-finished swivels, recessed for washers. Tail-pieces are heavy, extra long with chamfered ends.
All sizes furnished with iron pipe thread unless otherwise specified.

Size In.	Full Sets Each	Half Couplings Female Each	Half Couplings Male Each	Size In.	Full Sets Each	Half Couplings Female Each	Half Couplings Male Each
1/4	\$1.50	\$1.00	\$.75	1 1/4	\$2.60	\$1.74	\$1.30
3/8	1.50	1.00	.75	1 1/2	3.26	2.18	1.64
1/2	1.64	1.10	.82	2	4.56	3.04	2.28
3/4	1.64	1.10	.82	2 1/2	7.80	5.20	3.90
1	1.96	1.30	.98	3	16.04	10.70	8.02

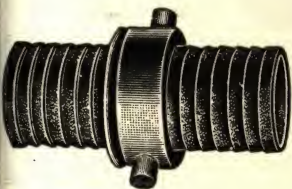
*Furnished with 3/4-inch I.P.T. unless 1/2-inch is specified.

No. 89 Allenco Cast Brass Water Hose Couplings

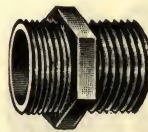
When ordering, always supply thread information to avoid delay.

Sizes 1 1/4, 1 1/2, 2 and 2 1/2 inches have lugs on female half only. Sizes 3, 4, 5, 6 and 8 inches have lugs on both halves.

Size In.	Full Sets Each	Half Couplings Female Each	Half Couplings Male Each	Wt., Lb. Each
1 1/4	\$1.60	\$1.08	\$.80	3/4
1 1/2	2.10	1.40	1.05	1 1/4
2	3.35	2.24	1.67	2
2 1/2	6.00	4.00	3.00	2 3/4
3	8.00	5.34	4.00	4 3/8
4	16.90	11.24	8.46	11 1/4
5	37.00	24.66	18.50	20
6	60.00	40.00	30.00	28 1/2
8	90.00	60.00	45.00	52



Allenco Cast Brass Hose Nipples

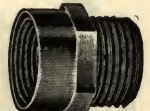


No. 91

I.P.T.—iron pipe thread.

H.P.T.—hose pipe thread.

(S) indicates straight I.P.T. (T) indicates taper I.P.T. Threads other than shown are special. Prices on request.



No. 92

No. 91 Male Hose Nipples

Size, In. and Thread	Kind	Size, In. and Thread	Kind	Each
1/2 I.P.T.	Male x 3/4 H.P.T.	1 1/2 I.P.T.	Male	\$.34
3/4 I.P.T.	Male x 3/4 H.P.T. (S)	2 I.P.T.	Male	.34
1 I.P.T.	Male x 3/4 H.P.T.	2 1/2 I.P.T.	Male	.34
1 1/4 I.P.T.	Male x 1 I.P.T. (T)	3 I.P.T.	Male	.50
1 1/2 I.P.T.	Male x 1 I.P.T. (T)	3 1/2 I.P.T.	Male	.50
2 I.P.T.	Male x 1 1/4 I.P.T.	4 I.P.T.	Male	.50
2 1/2 I.P.T.	Male x 1 1/2 I.P.T.		Male	1.50
3 I.P.T.	Male x 2 I.P.T.		Male	1.66
3 1/2 I.P.T.	Male x 2 1/2 I.P.T.		Male	2.34
4 I.P.T.	Male x 3 I.P.T.		Male	4.66
	Male x 3 1/2 I.P.T.		Male	6.66
	Male x 4 I.P.T.		Male	8.34
			Male	12.50

No. 92 Male and Female Hose Nipples

Size, In. and Thread	Kind	Size, In. and Thread	Kind	Each
1/2 I.P.T.	Female x 3/4 H.P.T.	1 1/2 I.P.T.	Female	\$.34
3/4 I.P.T.	Female x 3/4 H.P.T.	2 I.P.T.	Female	.34
1 I.P.T.	Female x 1 I.P.T. (T)	2 1/2 I.P.T.	Female	.34
1 1/4 I.P.T.	Female x 1 1/4 I.P.T.	3 I.P.T.	Female	.74
1 1/2 I.P.T.	Female x 1 1/2 I.P.T.	3 1/2 I.P.T.	Female	1.58
2 I.P.T.	Female x 2 I.P.T.	4 I.P.T.	Female	1.74
2 1/2 I.P.T.	Female x 2 1/2 I.P.T.		Female	2.46
3 I.P.T.	Female x 3 I.P.T.		Female	4.90
3 1/2 I.P.T.	Female x 3 1/2 I.P.T.		Female	7.00
			Female	8.76

No. 9200 Double Female Hose Nipples

Size, In. and Thread	Kind	Size, In. and Thread	Kind	Each
1/2 I.P.T. (T)	Female x 3/4 H.P.T.	1 1/2 I.P.T. (T)	Female	\$.34
3/4 I.P.T. (T)	Female x 3/4 H.P.T.	2 I.P.T. (T)	Female	.34
1 I.P.T. (T)	Female x 1 H.P.T.	2 1/2 I.P.T. (T)	Female	1.00

Larger sizes can be furnished, specify quantity, size and thread.

*Specify thread.

Allenco Gas Brass Hose Reducers



No. 9301

Hose Pipe Thread.....in.	3/4 x 1/2	*1 x 3/4
No. 9301.....each	\$.46	.46

*Straight iron pipe thread.

No. 93 with Lugs

Thread Inches	Each	Thread Inches	Each
1 1/4 x 3/4	\$1.48	2 x 1 1/2	\$3.30
1 1/4 x 1	1.84	2 1/2 x 3/4	3.66
1 1/2 x 3/4	2.10	2 1/2 x 1	4.04
1 1/2 x 1	2.10	2 1/2 x 1 1/4	4.22
1 1/2 x 1 1/4	2.20	2 1/2 x 1 1/2	4.40
2 x 3/4	2.38	2 1/2 x 2	4.76
2 x 1	2.58	3 x 2	5.50
2 x 1 1/4	2.94	3 x 2 1/2	6.60

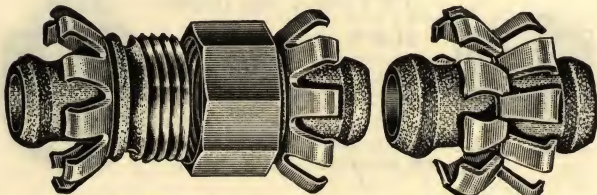
Specify thread wanted for male end, and for female end.

Extra Large Hose Reducers



Size.....inches	4 x 2 1/2	4 1/2 x 2 1/2
Hose Reducers.....each	.....	.....

Allenco Bull Dog Cast Brass Clincher
Hose Couplings and Menders



No. 3368 Coupling No. 2786 Mender

Heavy, rugged cast brass body with specially shaped heavily plated steel fingers. Coupling has sturdy brass octagon shaped nut which permits tight connection, using a wrench if necessary. Cut threads are sharp and clean, and connections are easily made. Easy to apply with hammer.

Size Hose In.	Couplings				No. 2786 Menders			
	No. 3368 Cut Threads per Doz.	No. 3368F Female Ends per Doz.	No. in Box	Wt. Lb. per Doz.	Per Doz.	No. in Box	Wt. Lb. per Doz.	
1½	12	3¼	....	24	23⅝	
5⁄8	12	3½	....	24	25⅝	
¾	12	3¾	....	24	33⅝	
1	12	3½	

No. 17C Allenco Garden Hose Couplings
Cast Brass



Size Inches	Full Sets Each	Half Coupling Female Each	Wt. Lb. per Doz.
1/2	\$.60	\$.40	21 1/2
5/8	.60	.40	23 1/4
3/4	.60	.40	3
1	1.00	.67	5 5/8

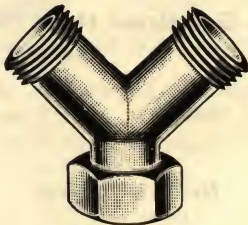


No. 67 Allenco Chicago
Gooseneck Hose Connections

Made of cast brass. Prevents hose kinking, breaking or splitting at sill cock. Swivels when attached to sill cock and will turn in direction hose is pulled. Has 3/4-inch hose pipe thread. Packed 12 in a box.

Shipping weight per dozen, 4 1/4 pounds
No. 67.....each\$1.00

Allenco Garden Hose Siamese



A device which divides a stream of water, thereby running two sprinklers at once.

Made of cast-brass with hose thread.

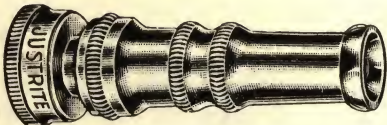
Size.....inch	3/4x3/4x3/4	1x3/4x3/4	1x1x1
Each.....	\$.75	2.00	4.00
Weight per Dozen.....pounds	4 3/4	8	13

Rubber Hose Washers



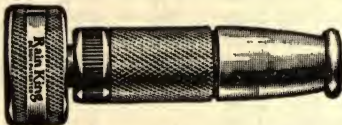
Size...in.	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
Per Lb...	\$.75	1.10	1.25	1.25	1.25	1.25	1.25	1.25
I.D...in.	2 1/32	13/16	1 1/16	1 1/4	1 13/16	2 3/16	2 3/4	3 7/16
O.D...in.	1 1/32	1 1/4	1 5/8	1 7/8	2 3/8	2 13/16	3 3/16	4 5/16

No. 85 Justrite Garden Hose Nozzles



Adjustable spray stream, and shut-off. Cast brass.
No. 85-1, 1-inch iron pipe thread, has a built-up base.
Packed 12 in a box; 12 dozen in a case.
No. 85, 3/4-Inch Hose Pipe Thread; Weight per Gross, 68 Pounds.....each \$1.35
No. 85B, with Rubber Bumper; 3/4-Inch Hose Pipe Thread; Weight per Gross, 69 Pounds.....each 1.50
No. 85-1, 1-Inch Iron Pipe Thread; Weight per Dozen, 7 5/8 Pounds.....each 2.45

No. N-1 Rain King Hose Nozzles



Made of solid brass; chrome plated. Leak-proof and tarnish-proof. Welded construction. Semi-ball tip and scientifically designed water channel for perfect spray. Weight, 5 ounces.

No. N-1.....each \$1.50

No. 7016 Allenco Ring Lawn Sprinklers



Made of heavy sheet brass and is so strongly crimped that it cannot be forced apart under heavy pressure.

Diameter 8 1/2 inches; with inserted 3/4-inch solid hose connection with clean, sharp, cut threads.

Packed 1 dozen in a carton. Weight 13 pounds.
No. 7016.....each

No. 7000 Allenco Cast Brass Flat Sprays



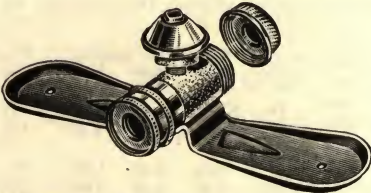
Ideal for sprinkling delicate flowers, tender plants, gardens or for watering park-ways.

An unobstructed inlet, patented interior construction and the perforated head combine to produce a full capacity nozzle, throwing a fine, fan-shaped spray about the proportions of 8 to 1.

The top is heavy gage sheet brass with small perforations and is approximately 7/8x5 1/4 inches. Heavy body made of cast brass. Has 3/4-inch hose connection with clean, sharp die-cut threads. The connection is grooved at the bottom of the threads for the rubber washer.

Packed 6 in a box. Ship. Wt. per dozen, 9 pounds.
No. 7000.....each \$1.39

No. 4573 Allenco Square Adjustable
Multiple Sprinklers



A fine mist-spray is thrown giving complete saturation and is distributed in the form of a square.

Adjustments for volume control are made by turning the head.

The cast brass body with a stamped brass sprinkler head is rigidly attached to the flat steel base.
Length, 8 7/8 inches; width, 2 inches. Female swivel hose connection, 3/4 inch.
Packed 4 sprinklers and 2 end caps in a box.
Weight, 2 3/4 pounds.

No. 4573 (Set of 4).....each \$6.80

No. K Rain King Lawn Sprinklers

Finger-Tip Distance and Spray Control



Automatically sets distance, correct spray and volume of water for any area, 5 to 50 feet in diameter by a turn of the control button. Has revolving arms.

All exposed brass parts are chromium plated, body and head are of cast iron. Ventilated base of pressed steel. Phosphor bronze bearings.

Rich, red plastic control button. Green upright and base.

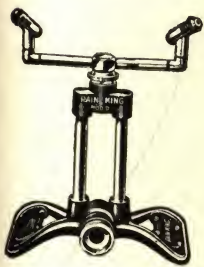
Width at base, 10 inches. Height, 10 inches.

Packed 1 to a shipping carton.

Shipping weight, 5 pounds.

No. K.....each \$8.50

Model D Rain King Sprinklers



May be set quickly to cover large or small areas, and for revolving or stationary sprinkling.

Waters circles, long narrow strips, odd plots. Each nozzle is a sprinkler in itself, quickly adjusted for distance, direction and volume.

Phosphor-bronze bearings throughout.

Nozzles, cross-arms, double water column, hand-lock wheel, and coupling, all brass.

Height, 9 inches; width at base, 7½ inches.

Packed 1 in carton; 12 in case, weight 38 pounds.

Model D.....each \$5.95

Detachable Hose Reels

This detachable hose reel revolves on the faucet. Slips into faucet and is quickly clamped. Made of galvanized and malleable iron, faucet of brass nickel-plated.

Reel is 20 inches in diameter, 8½ inches wide. Capacity, 100 feet of ¾-inch hose.

Hose is permanently attached to reel and any length can be pulled off while water runs.

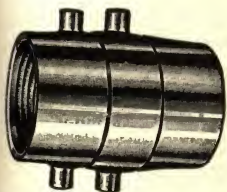
Reel and hose can be attached and detached instantly.

Including Faucet.....each

Extra Faucets.....each



Allenco Expansion Ring Fire Hose Couplings



Made of a bronze mixture containing a high percentage of tin.

Bore of tail-piece is finished to prevent chaffing or cutting of fabric. Swivels are designed to prevent jamming on tail-piece or bending out of shape.

Specify kind of hose: unlined linen; single jacket, cotton rubber lined; double jacket, cotton rubber lined; double jacket, 2½-inch.

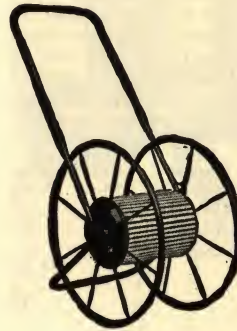
Specify Pinlug or Ovalug.

Specify size of hose: 1, 1¼, 1½, 2, 2½ or 3-inch.

When ordering, specify outside diameter of hose or furnish sample; also thread specifications or old coupling.

Style B Wirts All Metal Hose Reels

Tubular Type



No. 10 has frame and reel rims of tubular steel, pressed steel reel head, and corrugated galvanized sheet steel drum. When tilted frame forms a stand. Reel enamelled green.

No. 30 is similar in operation to No. 10 but is of heavier construction. For golf courses, parks, estates, cemeteries, etc., for large quantities of garden hose. Red enamel finish.

No. 10 nested 2 reels per bundle. No. 30 bundled singly.

No.	Each	Ht. Reel In.	CAPACITY OF RUBBER HOSE, FEET			CAPACITY RUBBER LINED MILL HOSE, FEET			Ship. Wt. Lb.
			¾-In. 3-Ply	1-In. 4-Ply	1¼-In. 4-Ply	1¼-In.	1½-In.	2-In.	
10	21	100	150	100	200	150	100	17
30	37	300	150	100	200	150	100	34

No. 97 Allenco Cast Brass Hose Nozzles

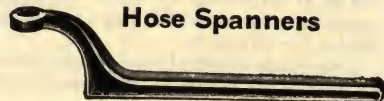


Made of polished cast brass. Table gives standard discharges on nozzles. Discharges different from standard at extra charge.

When ordering, always supply thread information.

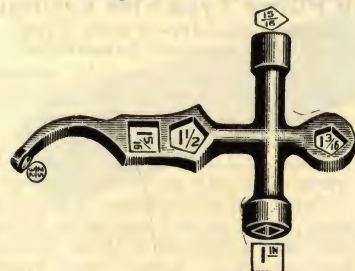
Size Inches	Length Inches	Discharge Inches	Each	Size Inches	Length Inches	Discharge Inches	Each
¾	3	1¼	\$.77	1½	10	1½	\$3.40
¾	6	1¼	1.40	1½	12	1½	4.00
1	4	¾	.96	2	12	¾	6.20
1	8	¾	1.73	2½	12	1	9.10
1¼	10	¾	2.80	2½	15	1	12.46
1¼	12	¾	3.24	...	...	...	.....

No. 9 Galvanized Malleable Iron Common Hose Spanners



Size.....inches	1½	2	2½
No. 9.....each	\$.88	1.06	1.20
Length.....inches	9	10	10¾

Fire Hydrant Wrenches



This wrench is adapted for all around use of firemen. The assortment of holes will fit any standard fire plug. The measurements of the pentagonal openings are from one side to the opposite angle. Length, 13 inches.

Per Dozen.....\$36.00

Quick-Aid Fire Guard Fire Extinguishers**Vaporizing Liquid Type****With Sure-Action Corrosion Arrestor**

For gasoline grease, oil and electrical fires. Approved by Underwriters Laboratories and U.S. Bureau of Marine Inspection. Meets requirements of Interstate Commerce Commission for use on motor trucks. Seamless drawn brass shell, baked enamel, pressed steel bracket. Safety-Phlare pump assures new pump action.



No.	Without Truck Brackets		With Truck Brackets		Cap. Qt.	Ship. Wt. Lb.
	Each		Each			
85HD	\$10.45		\$11.10		1	8
95HD	12.45		13.25		1½	11

Vaporizing Liquid Charge				Cap., Qt.	Wt. Lb.
No.	Each				
VL60	\$1.15			1	4
VL65	4.30			4	15

No. TF4 Quick-Aid Fire Guards**Torpedo Shell Construction of Drawn Seamless Brass****2½ Gallon-Foam Type**

Especially suitable for fires in gasoline, oils, greases, paints, chemicals, etc. Underwriters' classification A-1, B-1.

Entire dome and shell drawn from single piece of metal. No seams.

Collar attached to shell by special expanding process which does not depend on solder for strength.

Discharge elbow threaded and sweated into inward extruded flange integral with shell.

Height, 23¼ inches.

Approximate shipping weight, 19 pounds.

No. TF4.....each **\$23.20**

No. TF4-C, Chrome Plated.....each **26.70**

Price includes charge.

**No. TS15 Quick-Aid Fire Extinguishers****2½ Gallon—Soda-Acid Type****Torpedo Shell Construction of Drawn Seamless Brass**

Effective on Class A fires in wood, rubbish, textiles, and similar materials. Popularly used in hospitals, hotels, theaters, office buildings, etc.

Underwriters' classification A-1.

Entire dome and shell drawn from a single piece of metal. No seams.

Collar attached to shell by special expanding process which does not depend on solder for strength.

Discharge elbow threaded and sweated into inward extruded flange integral with shell.

Height, 23¼ inches.

Approximate shipping weight, 17 pounds.

No. TS15.....each **\$21.00**

No. TS15-C, Chrome Plated.....each **25.00**

Price includes charge.

**Quick-Aid Pump Type Fire Extinguishers****5-Gallon Capacity—Pump Type****Listed by Underwriters' Laboratories**

Recommended for use in unheated buildings or outside locations. Effective on class A fires in wood, textiles, paper, etc. Does not require annual recharging.

Fluid will not freeze at 40°F. below zero when used with anti-freeze charge.

Constructed of copper or heavy galvanized steel; tank coated on inside to resist corrosion and equipped with an all-brass double acting pump. Large (bail type) carrying handle. Ht., 27½ in. Ship. wt., 15¼ lb.

No. PC909, Copper.....each **\$23.35**

No. P909, Steel.....each **18.00**

Does not include non-freeze charge.

No. PC42.....each **\$2.75**

Shipping Weight.....pounds **15¼**

**Quick-Action Dry Powder Fire Extinguishers****Shell Test, 500 Lb. PSI.****Listed by Underwriters' Laboratories.**

For gas, oil, electrical, paint and inflammable liquid fires. User walks close to fire and releases cloud-like blast of dry powder to extinguish fire fast. Carbon dioxide cartridge has safety release valve to prevent accidental skyrocketing.

Will not freeze at low temperatures.

No.	Each	Cap. Lb.	Ht. In.	Shell Diam. In.	Hose Length	CO ₂ Oz.	Ship. Wt. Lb.
DC-4	\$26.50	4	16	3½	None	1¼	*10
DC-10	49.00	10	18	6¼	15	3	25
DC-20	62.00	20	22	7¼	19	5½	37
DC-30	75.00	30	28¼	7¼	26	8¼	54

*With bracket.

C-D Sno Fog Fire Guards**Carbon Dioxide Extinguisher**

Carbon dioxide discharge kills fire in a few seconds by penetrating to every corner where fire exists, excluding and replacing oxygen necessary to combustion.

Effective on oil, electrical, gasoline, grease, flammable liquid, paint, lacquer, and illuminating gas fire.

Cylinder constructed of best grade steel, with brass fittings.

Shipped fully charged. Wall hook furnished with each hand type portable.

Wide faced steel wheels on all wheeled type extinguishers.



*Swivel.

No.	Each	Type	Size Lb.	Underwriter's Rating	Lgh. Hose Ft.	Ht. In.	Ship. Wt. Lb.
2½-AKS	\$23.75	Lever Seat	2½	B2,C2	* 17½	12	
5-AKS	31.75	Lever Seat	5	B2,C2	* 17	19	
10-AK	51.75	Lever Seat	10	B2,C1	3 22	36	
15-AK	59.75	Lever Seat	15	B1,C1	3 42	51	
20-AK	67.75	Lever Seat	20	B1,C1	3 27	64	
50-A	194.00	Wheel Type	50	B1,C1	15 67	300	
75-A	239.00	Wheel Type	75	B1,C1	25 67	355	
100-A	384.00	Wheel Type	100	B-C	40 67	455	

Brackets for Hand Type Portables

Extinguisher No.	Type Bracket	Size Lb.	Each
2½-AKS to 20-A and 20-AK	Wall Hook	2½ to 20	\$3.55
2½-AKS to 20-A and 20-AK	Marine	2½ to 20	3.00
5-AKS	Running Board	5	7.00
10-A and 10-AK to 20-A and 20-AK	Running Board	10 to 20	8.75

No. 212 Wheeling Dura-Zinc-Alloy Fire Pails

Equipped with wire bail; stamped ears welded to pail.

With round bottom; fire stenciled in red on each pail.

Capacity, 12 quarts.

Packed 1 dozen per carton.

Weight per dozen, 29 pounds.

No. 212.....per dozen



No. 9 U. S. Rainbow Sheet Packing



For air, steam, hot or cold water joint packing.

Tested to stand a service pressure of 150 pounds of saturated steam without squeezing and blowing out.

Pliable to fill up any irregularities in the flange and has the resilience to overcome vibration, contraction and expansion in line.

Standard roll is 36 inches wide.

Thickness.....inches	1/32	1/16	1/8	3/16	1/4
Approx. Wt. per Sq. Yd.					
.....pounds	2 3/4	5 3/8	10 3/4	16 1/4	21 1/2

Style No. 49 U.S. Redman Plain Sheet Packing



Designed for service against hot and cold water, saturated steam pressure up to 125 pounds, and general hydraulic conditions.

Made of high quality compounds.

Furnished in standard rolls 36 inches wide, weighing approximately 100 and 200 pounds.

Thickness.....inches	1/32	1/16	1/8	3/16	1/4
Style No. 49.....per pound					
Approx. Wt. per Sq. Yd.....lb.	2 3/4	5 3/8	10 3/4	16 1/4	21 1/2

Asbestos Wick



Standard asbestos wick is long fibered, hard twisted for wire wiping and stem packing.

Furnished in 1/2 and 1-pound balls.

No. 150 Garlock High Pressure Spiral Packing



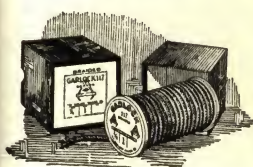
Made of select long fiber asbestos, with a non-vulcanizing rubber cushion. Lubricated throughout with Garlock compound. For

use on piston rods working against high pressure and superheated steam, for expansion joints and for rods running in oil, grease or acids. Stocks of all sizes carried in 16ths from 1/8 to 1 1/2 inches. The following is a close estimate of the weights in a few of the different sizes.

Size In.	No. of Feet	Wt. Lb.	Size In.	No. of Feet	Wt. Lb.	Size In.	No. of Feet	Wt. Lb.
1/4	25	1 3/8	5/8	12 1/2	4	1	12 1/2	10
3/8	12 1/2	1 1/2	3/4	12 1/2	5 3/4	1 1/8	12 1/2	13
1/2	12 1/2	2 1/2	7/8	12 1/2	8	1 1/4	12 1/2	16

No. 150.....per pound

Style No. 117 Garlock Beaver Packing



A lubricated, long fibre asbestos packing; braided or twisted styles. In sizes from 1/16 to 3/4-inch, advancing by 16ths.

Size In.	Per Lb.	Size In.	Per Lb.
1/16	3/16	.....
1/8	1/4 to 3/4	.....

No. 1010 Palmetto Twist Packing



For air, steam, water and neutral fluids. Used to pack a variety of sizes of small valves, shafts and rods of small pumps and similar apparatus.

Structure of high grade, high tensile, uniformly twisted Canadian white asbestos yarn. Each strand lubricant-impregnated with a special compound.

Packing may be unstranded right on job. Each strand is a perfect packing in itself. Will not harden or

bind valve stems or pumps shafts.

Size.....inches	1/16	1/8	3/16	1/4	5/16	3/8	7/16	1/2
Per Pound.....	\$2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07
Approx. No. Feet	194	83	55	27	23	13	9	9

Also available in sizes up to 1 inch inclusive.

Style No. 623 U.S. Huron Brand Jute Packing

Style No. C-623, Coil

Style No. R-263, Ring



Recommended for all hydraulic services that require a serviceable, low-priced and durable cold water packing.

Made from strong jute fiber, braided with corners

and centers of the same material and well lubricated. Supplied on reels if desired.

Size.....in.	1/4	3/8	1/2	5/8	3/4	7/8	1
Style No. 623.....per lb.							
Coils per Box.....	4	5	4	3	1	1	1
Approx. Ft. per Box.....	68	95	52	50	42	36	31
Approx. Wt. per Box lb....	2 1/4	7 3/8	7 1/8	11 1/8	12 1/8	14	16 1/4

When ordering rings, specify diameter of rod, inside diameter and depth of stuffing box.

No. 777 Garlock Extra Spiral Packing



Made of rubber and duck of best quality and is thoroughly lubricated.

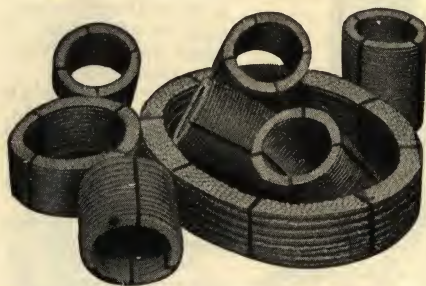
Will give excellent service on medium pressure steam, hot water and ammonia.

In all sizes, in sixteenths from 1/8 to 1 1/2 inches.

No. 777.....per pound

Asbestos Folded Gaskets

For Manholes, Handholes and Flange Joints



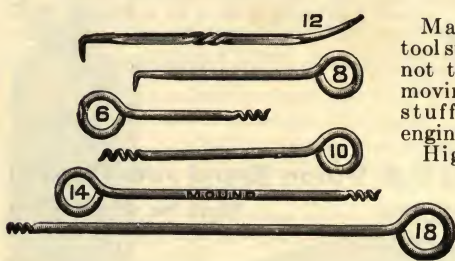
Will stand high temperatures and steam pressures. May be reused many times. Folded by hand and made of asbestos wire inserted sheeting.

Furnished in any size, shape or thickness. In ordering, give

inside diameters and width of flange.

Per Pound.....

Mound Packing Tool Sets



Made of special tool steel, warranted not to break in removing packing from stuffing boxes of engines, pumps, etc. Highly polished. Oil finish.

Packed in cardboard box.

No.	Description	Per Set
904-P	Set of 4 Tools, Nos. 6, 10, 12 and 14.....	\$2.16
906-P	Set of 6 Tools, Nos. 6, 8, 10, 12, 14 and 18....	3.52

No. 1203 Mound Flexible Packing Hooks



Quickly gets the toughest packing without nicks and burns. Hook is tempered and permanently pointed. Two large steel shafts, one inside of other, wound in opposite directions, make up the shank. Handle is solid.

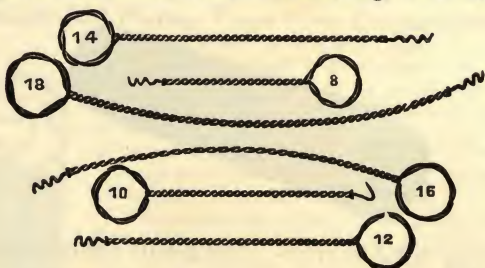
Weight, 1/2 pound.

No. 1203, Set of 3 Hooks.....per set \$5.00

Separate Hooks

No.	1, Small	2, Medium	3, Large
Each.....	\$1.25	1.55	2.20

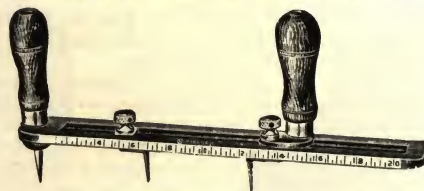
No. 3-P Mound Rapid Packing Tool Sets



Very flexible. Can be bent at any angle. Will withstand rough usage; can go into any stuffing box. Turned from one piece of high grade steel; finely tempered. Set contains 6 tools, sizes 8, 10, 12, 14, 16 and 18 in. Wt., 12 oz.

No. 3-P Set, Natural Finish..... each \$5.00

No. 411 Hargrave Washer and Gasket Cutters



Adapted to cutting gaskets from 4 to 20 inches in diameter. Knives are of tool steel, well tempered and are adjusted by knurled thumb-screws. Center pin is also of steel. The cutter is japanned, polished and has a gage.

Packed 1 in a box.

Weight, 1 pound 5 ounces.

No. 411, 20-Inch, with Gage.....each \$5.16

No. 411-A, Knives Only.....each 1.42

No. 410, Screws Only.....each .56

No. 407 Hargrave Washer Cutters

Used for cutting gaskets out of leather, paper, rubber, sheet lead or thin wood, cutting both inner and outer circle at the same time and adapted to any ordinary brace. Made to cut up to 6 inches. Minimum capacity, 7/8 inch.



Body malleable iron; steel pin; blades tool steel, properly ground and tempered. Polished and japanned. Adjustment made by knurled thumb screws.

Packed 1 in a box. Weight, 7/8 pounds.

No. 407, 6-Inch with Gage.....each \$4.22

No. 407A, Knives Only.....each 1.42

No. 410, Screws Only.....each .56

No. 1406 Hargrave Circle Metal Cutters

For cutting circular holes in sheet metal, wood, or fiber. Useful to electricians, sheet metal workers, auto mechanics, etc.

Capacity for cutting circles from 1 1/4 to 6 inches in diameter to 7/8 inch deep.

The body of the tool is malleable iron, and the blades of best tool steel, ground and tempered for cutting metal.

Also furnished with 1/2-inch round shank or No. 1 Morse taper shank, and high speed steel knives, special.



Packed 1 in a box, weight, 1 pound.

No. 1406 with Bit Stock Shank.....each \$7.72

No. 5 Pawood Circle Cutters

For cutting holes in metal fibre, bakelite, hard rubber, hardwood, etc. High speed steel cutter adjustable from 1 to 5 1/2 inches diameter.

Packed 1 in box; weight, 1 pound.

No. 5-A, Square Shank.....each

No. 5-B, 3/16" Round Shank.....each

No. 5-C, 1/2" Round Shank.....each

No. 4 Pawood Circle Cutters

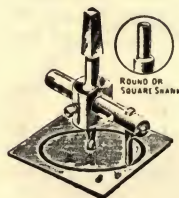
For cutting holes in light metal, fibre, bakelite, hard rubber, hardwood, etc. High speed steel cutter, adjustable from 7/8 to 4 inches diam.

Combination round and square shank.

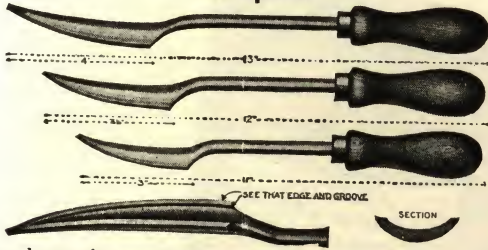
Packed 1 in a box.

Weight per box, 3/4 pound.

No. 4.....each



No. 114 Mound Special Curved Bearing Scrapers



Non-chattering. Highest grade tool steel. Deeply grooved and hollow-ground, and carefully tempered. Blade highly polished. Furnished in 12, 10, and 8-inch lengths. Packed in cardboard boxes.

No. 114, Polished Blades.....per set of 3 \$3.00
No. 115-B, Full Polished.....per set of 3 3.65

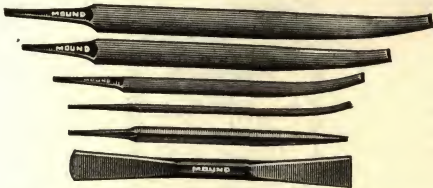
Mound Three Square Scrapers



Packed 1 dozen in a box.

Size.....in.	12	10	8	6, No. B
Wt. per doz.....lbs.	6 3/4	5	4	1 1/2
Flat ground.....per doz.	\$16.95	\$13.20	\$11.55	\$9.00
Hollow Ground.....per doz.	24.00	18.90	15.75	12.00

Mound Scraping Tools



The set consists of one 14-inch half round scraper, one 12 inch half round scraper, one 10-inch half round scraper, one 8-inch half round scraper, one 6-inch 3-square scraper and one 12-inch double end scraper.

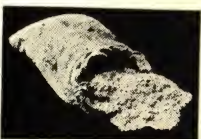
No. 1, 6 Scrapers; Flat Ground, Tempered and Polished in Oak Case; Wt. 5 1/4 Lb.....per set \$7.90
No. 2, 6 Scrapers, Special Hollow Ground, in Oak Case; Wt. 4 13/16 Lb.....per set 9.90

Cold Water Paste

An economical, convenient and practical form of paste. Can be mixed with either hot or cold water. Put up in small bags or kegs and barrels.

2-Pound Bags.....	per pound	.....
5-Pound Bags.....	per pound	.....
50-Pound Kegs.....	per pound	.....
200-Pound Barrels.....	per pound	.....

Asbestos Cement



Asbestos cement is made of asbestos fiber and binding materials that have high insulating values.

It is easy to mix and apply. The durable, attractive surface does not crack or peel off.

Packed in 100-pound bags.

Per Pound.....

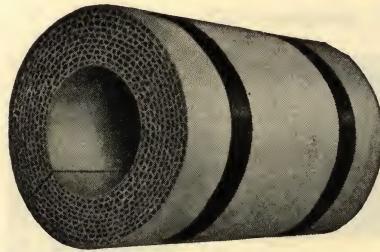
Asbestos Paper and Roll Board



	Paper	Roll Board
*Thickness..in.	1/32 1/16 1/8 1/4	1/32 1/16 1/8 1/4
**Approx. Wt.		
100 Sq. Ft....Lbs.	16 32 48 64	
**Actual weight may vary $\pm 10\%$.		
**Actual thickness may vary $\pm .02$ ".		

1 1/2" and 1 3/4" known as asbestos roll board. Furnished in 25, 50 and 100-lb. rolls.

Grant Wilson Asbestos Air Cell Pipe



Covering

For hot water and medium and low pressure steam. Of alternate layers of plain and corrugated asbestos paper, bound to form strong, heat-proof cover. Non-conducting, due to corrugations about

1/4 inch deep. Little danger of breaking in handling. In sections 3 ft. long, split in halves lengthwise, canvas covered, and with bands for all pipe sizes.

No. of Plies.....	3-Cell			6-Cell			8-Cell		
	2	3	4	4	6	6	8	8	8
Thickness.....inches	1/2	3/4	1	3/4	1	3/4	1	1	1

Sectional Pipe Insulation

Supplied in sections 3 feet long, canvased; with brass lacquered bands.

Use standard thickness prices for thicknesses 1 inch and under.

Per Linear Foot

I.D. Pipe Inches	Standard Thickness	†Double Standard Thickness	1 1/2-Inch Thickness	2-Inch Thickness	2 1/2-Inch Thickness	3-Inch Thickness, Broken Joint
1/2	\$.22	\$.65	\$.46	\$.75	\$ 1.00	\$ 1.20
3/4	.24	.70	.49	.80	1.05	1.35
1	.27	.75	.52	.85	1.10	1.40
1 1/4	.30	.80	.56	.90	1.15	1.45
1 1/2	.33	.85	.60	.95	1.20	1.55
2	.36	.90	.64	1.00	1.25	1.65
2 1/2	.40	1.00	.70	1.05	1.35	1.75
3	.45	1.10	.76	1.15	1.50	1.90
3 1/2	.50	1.20	.82	1.25	1.65	2.05
4	.60	1.40	.88	1.35	1.80	2.20
4 1/2	.65	1.50	.94	1.45	1.95	2.35
5	.70	1.60	1.00	1.55	2.10	2.50
6	.80	1.80	1.10	1.70	2.25	2.70
7	1.00	2.25	1.20	1.85	2.40	2.90
8	1.10	2.50	1.35	2.00	2.55	3.15
9	1.20	2.70	1.50	2.20	2.80	3.40
10	1.30	2.90	1.65	2.40	3.05	3.65
*12	1.85	4.10	1.85	2.70	3.40	4.10
14 O.D.	2.10	4.60	2.10	3.00	3.80	4.60
16 O.D.	2.35	5.10	2.35	3.30	4.20	5.10
18 O.D.	2.60	5.60	2.60	3.60	4.60	5.60
20 O.D.	2.85	6.00	2.85	4.00	5.00	6.00
24 O.D.	3.30	7.00	3.30	4.50	5.75	7.00
30 O.D.	4.00	8.40	4.00	5.50	6.95	8.40

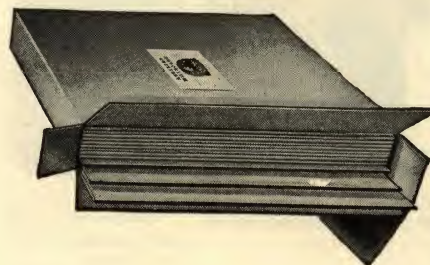
*Sizes 12-inch and larger furnished in segmental form. 12-inch can be supplied in sectional type on special order.

†Only 85% Magnesia made in this thickness.

Asbestos Millboard

Made of asbestos fiber. Acid-proof and fireproof. Standard size sheet, 42x48 inches.

Put up in cartons weighing approximately 100 pounds each.



Thick. In.	APPROX. —Wt., Lb.—	
	Per Sheet	Per Sq. Ft.
1/16	4.6	.33
1/8	9.0	.64
3/16	13.3	.95
1/4	17.6	1.26
3/8	25.2	1.81
1/2	31.5	2.25

No. 1 H & A Mayflower Marine Oakum

Unspun



Made from first quality Sunn hemp and carefully treated with the best quality old process tar. Fully up to U. S. Government specifications.

Packed in regular 50-pound slatted bales.

Machine spun oakum also available.

H&A E-Z Pack Jute Packing

Twisted

Single strand form, pure jute, supplied tarred, untarred and dry unoiled. Put up in 5 pound boxes; ten boxes to a 50-pound carton.

Per Pound.....



H & A Plumbers' Spun Oakum

Used for caulking soil and waste water pipes. Made of jute. Treated with high quality tar.

Supplied in 50-lb. bales.
Per Pound.....

Waste

Finest quality long thread, white cotton waste.

Especially selected for use in garages and machine shops for cleaning, wiping and polishing.

Nos. 1 and 2 White

In 50-pound bales and bulk.

Prices upon application.

Nos. 1 and 2 Colored

In 50-pound bales and bulk.

Prices upon application.

Wiping Rags



Washed and sterilized.

Packed in 50, 100 and 500-pound bales.

Selected White.....per pound
Selected Colored.....per pound
Underwear.....per pound

Grant Wilson Asbestos Furnace Cement



Smokeless, odorless, acid-proof compound.

For tight, dependable metal to metal joints in furnaces, cast iron or steel, boilers, incinerators, etc.

Cans are packed in strong, convenient-to-handle cartons.

In Cans		No. Cans per Ctn.
No. Lb. per Can		
1		36
2		30
5		12
10		6

Available in 25, 50 and 100-pound steel drums, barrel and half barrel steel drums; larger if required.

Reardon's Patching Plaster

For repairing cracks in lime, putty, etc. Perfect base for wallpaper, etc.

Sets slowly. Dries hard. Does not shrink or crack. Pure white powder. Smooth workability. Non-staining. Permanent.

Size Container.....lb.	2 1/2	.5	15	25
Each.....	\$.36	.65	1.75	2.65
Type Container....	Pkg.	Pkg.	Bag	Bag
No. to Case.....	20	10	.....	.....



Tilette Plastic Cement



Resets loose tile to walls and floors. Repairs tile, marble, pottery, fire pots, fire brick, ovens, etc. Can be colored with water colors for mending bric-a-brac, pottery, etc. Sets porcelain and metal bathroom and kitchen fixtures to tiled walls without the use of screws.

Size Can.....	pounds 1/2	1	4
Per Dozen.....	\$3.60	5.40	10.80

Also packed in 16 pound cans and drums, prices on request.

Door-Ease Stainless Stick Lubricant



A lubricant impregnated wax which is clean and easy to apply. Used like a crayon and will not stain clothing or upholstery. Prevents squeaks, rust and wear. Lubricates rubber, metal, wood, glass, felt, and other surfaces. Recommended for lubricating car door fittings, hood lacing and other exposed friction surfaces.

Made in universal size for general purposes, and shop size for car dealer and service station use.

No. B-12 Counter Display Box of 12 Universal Size Sticks; Net Weight, 3/4 Pound.....	each	\$1.20
No. SS-6 Box of 6 Shop Size Sticks; Net Weight, 1 1/2 Pound.....	each	2.34

Specialties

- It is not practical for us to list many items used for special service.
- Let us help you with problems where special material is required.

Finol

A highly refined lubricant.

Made especially to meet the demand for a light oil to lubricate delicate fast-running machinery.

It will never harden, gum or turn rancid.

Put up in 4-ounce and 1-gallon cans.



4-Oz. Can

4-Ounce Cans.....	each	\$.25
1-Gallon Cans.....	each	2.50

3-In-One Oil

Available in both regular and heavy body types.

A blend of finest oils, scientifically compounded for oiling light mechanism, preventing rust on metal, cleaning and polishing.

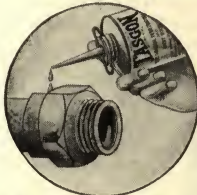
Used on sewing machines, vacuum cleaners, clocks, door locks and hinges, electric motors, window latches, squeaking castors, bicycles, guns, etc.

Prevents rust on kitchen ranges and nicked bathroom fixtures.



1-Ounce Spout Can.....	each	\$.10
2-Ounce Tube.....	each	.25
3-Ounce Spout Can.....	each	.25
8-Ounce Can.....	each	.50
1-Gallon Can.....	each	4.50

Tasgon



Tasgon is the original rust-solvent. It penetrates instantly into the rustiest or tightest joint or connection, dissolving and breaking down the rust and loosening the parts. A few drops of Tasgon will loosen the rustiest nut, bolt, coupling, union, bushing or connection of any kind.

Tasgon may also be used to clean rust and grease from nickel parts. It will not injure metal.

Size of Container.....	3-Oz.	1-Pt.	1-Qt.	1-Gal.
Each.....	\$.30	1.00	1.50	5.00

Lubri-Tasgon Oil

Lubri-Tasgon is a rich, pure oil, finely divided. Penetrates quickly into unreachable places. Gives lasting lubrication in tight fittings. Prevents rust formation on sheet metal, finished tools, parts, etc. Used by mechanics to loosen rusted connections quickly, to free sticky valves, to break in new motors, to oil generators, etc. Three-ounce can used by autoists and householders.

Blends readily with any oil.



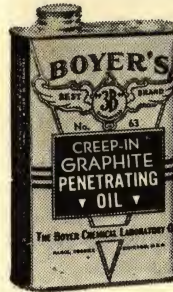
3-Ounce Cans, 12 to a Case.....	each	\$.30
1-Pint Cans, 12 to a Case.....	each	1.00
1-Quart Cans, 12 to a Case.....	each	1.50
1-Gallon Cans, 6 to a Case.....	per gallon	5.00
5-Gallon Cans.....	per gallon	4.50
55-Gallon Drums.....	per gallon	4.00

No. 63 Boyer Creep-In Graphite Penetrating Oil

Penetrates and lubricates springs.

The oil when squirted on the sides of the springs creeps in through rust and scale and leaves a graphite deposit between the leaves.

Also for loosening tight joints.



Size Container	Each	No. in Case
1/2-Pint Can	\$.35	12
1-Pint Can	.50	12
1-Quart Can	.89	6
1-Gallon Can	2.50	..
5-Gallon Can	*2.25	..
*Per gallon.		

Boyer Neat's-Foot Oil

100 Per Cent Pure

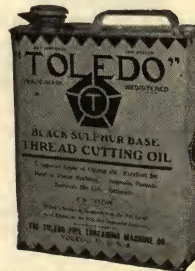
Nothing is the equal of pure neat's-foot oil for leather upholstery, belts, shoes, harness, leather lined auto clutches, etc.

It puts new life into them, making the leather soft and pliable.



Size Can.....	1/2 Pt.	1 Pt.	1 Qt.	1 Gal.
Per Can.....	\$.60	1.00	1.85	5.55

Toledo Black Sulphur Base Thread Cutting Oil



Especially good for hand tools or power machines.

Assures smooth, clean threads, tight joints and increased die service.

Will not turn rancid.

1-Gallon Cans.....	per gallon	\$1.20
5-Gallon Sealed Pails.....	per gallon	1.20
54-Gallon Drums.....	per gallon	1.05

No. 375 Dixon's Ball and Roller Bearing Grease



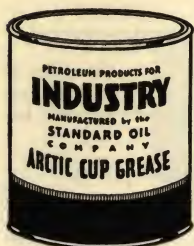
For lubrication and protection of ball and roller bearings in electric motors, hoisting drums, woodworking machinery, ventilating and draft fans, textile machinery, laundry flatwork irons, bakers' machinery, etc.

Excellent for bearings of all sizes, and speeds, high or low temperature. A soft, yellow heat-resisting grease for use in pressure guns or cups.

Size Container.....	pounds	*10	25	50	100	400
No. 375.....	each	\$.50	.45	.40	.36	.33

*Packed in cans, 6 in a case.

Arctic Cup Grease



No. 00 is the softest grease and is suitable for high-speed machinery or close-fitting bearings or for bearings fitted with a lubricating device that requires a thin grease.

No. 0 is slightly stiffer than No. 00 and is also serviceable for medium and high-speed machinery.

No. 1 is slightly harder than No. 0 and is recommended for automatic grease cups and the same purpose as above where a slightly harder grease is required.

No. 2 is slightly harder than No. 1 and adapted for general grease cup lubrication and in pressure grease guns.

No. 3 is slightly harder than No. 2 and is suitable for general compression cup or screw cup lubrication.

No. 4 is slightly harder than No. 3 and especially serviceable for open boxes and heavy bearings.

No. 5 is slightly harder than No. 4 and can be applied to water pumps and to conditions where a grease stiffer than No. 4 is required.

Put up in 1 and 10-pound cans; 38-pound pails; and 100-pound drums.

No. 677 Dixon's Graphited Gear Lubricant



Flake graphite compounded in a light-bodied, non-viscous lubrication oil and calcium soap.

A free flowing water insoluble lubricant that adheres lastingly and lubricates thoroughly.

Excellent for enclosed and small open gears, machinery and equipment, especially where heavy-bodied, power-absorbing or viscous lubricants should not be used. Also for general chassis lubrication of automobiles.

Used for same services as indicated for Dixon's Cup and Pressure Gun Graphited Grease No. 2.

The 25 and 50-pound quantities furnished in drums, all other sizes cans or jars. Also furnished in larger containers.

Size Container.....	pounds	1	10	25	50
No. 677.....	per pound	\$.70	.50	.45	.40
No. per Case.....		36	6	...	...

Dixon's Cup and Pressure Gun Graphited Greases



Water insoluble. Retains original consistency over wide temperature range.

Does not need to be replaced as frequently as plain grease, and is therefore more economical.

Available in 6 consistencies: Nos. 0, 1, 2, 3, 4 and 5. When ordering, specify consistency.

Nos. 3 and 5 are for general use. No. 0 is about consistency of heavy oil; No. 5 about consistency of soft tallow.

Size Container.....	pounds	1	10	25	50
Per Pound.....		\$.70	.50	.45	.40
No. per Case.....		36	6	...	...

In larger containers, prices upon application.



Flash House and Hand Cleaner

Quickly, safely and thoroughly removes dirt, grime and stains of all kinds.

Size Can.....	1-Lb.	3-Lb.
Each.....	\$.15	.35
No. to Case.....	24	12

Dixon's Lathe Center Graphite Lubricant



Lubricants for lathe dead centers are subjected to the severest conditions of pressure and heat.

This product possesses an almost super film strength, minimizing overheating, wearing and scoring of dead centers, steady and follower rests and jack screws. Superior to white lead.

Also is widely used in many other lubricating services requiring its pressure-resisting film strength.

Size Tube.....	ounces	1	4	8
Per Tube.....		\$.30	.45	.85

Also in larger containers.

Dixon's Rubber Refillable Graph-Air Guns



Squeeze type, molded black rubber, used for ejecting dry, powdered Microfyne lubricating flake graphite into locks, window slides and hinges, hand tools, cameras, office machines, auto locks and bodies, etc.

Wide mouth with removable screw top. Brass nozzle is 3 5/8 inches long, extended; 1 1/4 inches, depressed. When depressed fully against bottom of gun, shuts off graphite.

Spring steel wire cleaner is fixed to bottom, extends up through nozzle and functions as an unclogging device. Nozzle easily cleaned by slight up-and-down motion. Furnished with 1 ounce of Dixon's Microfyne Graphite.

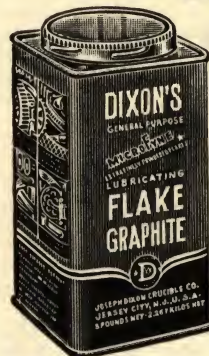
Height, outside, 3 3/4 inches. Max. diam. 2 1/4 inches.

Diameter opening, 1 3/8 inches. Capacity, 1 1/2 ounces.

Packed in a box; 36 in a carton, ship. wt. 16 lb.

Weight, 5 1/2 to 6 ounces.....each \$1.50

Dixon's General Purpose Microfyne Lubricating Flake Graphite Extra Finely Powdered Flakes



For all general lubrication and other purposes. Small size particles.

For ordinary and special lubrication of close fittings and tolerances, use dry or add to lubricating oils, greases and other substances.

Size Container	Per Pound
1/2-Lb. Canister.....	*\$1.35
1-Lb. Canister.....	1.65
5-Lb. Canister.....	1.55
25-Lb. Drum.....	1.20
50-Lb. Drum.....	1.15
100-Lb. Drum.....	1.10
200-Lb. Drum.....	1.00

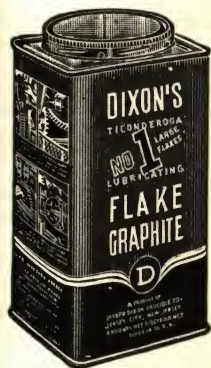
*Per can.

No. 635 Dixon's Lubricating Flake Graphite



Used dry or as a lubricating additive in oils, greases and other substances for long lasting lubrication. Extremely pure, unctuous, and in particle size is about 4 times smaller than Ticonderoga Graphite No. 2. Processed specially for services requiring minute, but not microscopic particle size.

Size Container	Per Lb.	No. Per Case
1	\$1.65	36
5	1.55	8
25	1.20	..
50	1.15	..
100	1.10	..
200	1.00	..



Dixon's Ticonderoga Flake Lubricating Graphite

Used dry or as a lubricating additive in oils, greases and other substances for long lasting lubrication, and as a lubricant and parting on pipe joints, gaskets and packings.

Furnished in particle size No. 1 in large flakes; or No. 2 in medium powdered flakes.

When ordering specify size.

The 25, 50, 100 and 200-lb. quantities furnished in drums, all other sizes in cans.

Size Container.....lb.	1	5	25	50	100	200
Per Pound.....	\$1.35	1.25	1.00	.90	.85	.80



No. 4 Permatex Gasket Cement

Permatex Gasket Cement is an extra heavy, adhesive liquid.

It has five times the heat resistance of shellac. Makes pressure-tight unions that are leakproof to gasoline, kerosene, grease, oil, water and anti-freeze.

Holds gaskets firmly in place.

	Each	No. Dozen in Case
2-Ounce Bottle.....	\$.25	12
1/2-Pint Can (with Brush).....	.95	3
1-Pint Can.....	1.25	2
1-Gallon Can.....	6.50	1/2

No. 3 Aviation Form-A-Gasket Liquid

A liquid that is applied with a brush and changes in a few seconds to a paste.

Used on all types of gaskets, machined surfaces, and screw thread connections in aeroplane and automobile motors.

Produces an elastic, adhesive, pressure-resistant seal that is leakproof to high test gasoline, gasoline vapor, grease, and lubricating oils, even if the latter are heated above 400°F. Also resistant to hot or cold water, ethylene glycol, glycerine, fuel oil, kerosene, and many other fluids.

Disassembles very readily.



Size Can	1/4 Pt.	1 Pt.	1 Gal.
Each.....	\$.65	1.75	9.50
No. in Case.....dozen	3	2	1/2
Gross Weight per Case.....pounds	19	35	62

Permatex Form-A-Gasket

No. 1. Fast drying and hard setting. Used principally for making permanent assemblies, for building up uneven or warped surfaces and for the repair of broken parts. Makes unions leakproof to gasoline, gasoline vapor, kerosene, hot or cold oil, grease, and water.

No. 2. Dries slowly and remains pliable. Used for general assembling work. It makes leakproof, pressure-tight unions but disassembles very easily.



	1 1/2-Oz.	3-Oz.	11-Oz.	1-Pt.	1-Qt.	1-Gal.
Each.....	\$.30	.45	1.10	1.65	2.75	8.75
No. in Carton	12	12	12			
No. in Case	72	72	36	24	12	6
Weight.....	1 1/2-Oz.	3-Oz.	11-Oz.	1 1/4-Lb.	3 3/8-Lb.	12 1/2-Lb.

Key Graphite Paste Listed by National Board of Fire Underwriters



Soluble only in water. Used to seal steam lines, screw thread and gasket joints, cylinder heads, turbines, engines, pumps and valves, etc. Tight seal is easy to open. Leakproof against oils, gasoline, acids, gases, etc. Heat causes graphite paste to expand into joints or defects and thus absolutely prevent leakage. Will not corrode or oxidize in joint. Thin with water and apply with brush; ready for use; will not spoil or harden in can.

Description	Each	No. Cans in Case	Net Wt., Lb. per Case
1/4-Lb. Cans.....	\$.35	144	36
*Handy Dope Kit.....	.70	48	30
1-Lb. Cans.....	.90	24	24
3-Lb. Cans.....	2.10	12	36
5-Lb. Cans.....	3.25	12	60
10-Lb. Cans.....	5.50	6	60
30-Lb. Buckets.....	13.50		
60-Lb. Buckets.....	21.00		
Barrels, 400 to 700 Pound.....	per pound		\$.19

*Contains 3/8 lb., net contents. Screw-top lid, brush attached.

Key-Tite Waterproof Pipe Joint Compound



Key-Tite Pipe Joint Compound will effectively seal screw thread and gasket joints for such service as gas, water, steam, compressed air, etc.

It is not a quick hardening cement, but a plastic lubricant and filler that will seal the most obstinate joint with ease.

Covers more surface than lead mixtures and is more economical.

Description	Each	No. Cans in Case	Net Wt., Lb. per Case
1/8-Pint Can.....	\$.22	144	27
1/2-Pint Can.....	.40	48	36
*Handy Dope Kits.....	.50	48	36
1-Pint Can.....	.65	24	36
1-Quart Can.....	1.10	12	36
1/2-Gallon Can.....	1.85	12	72
1-Gallon Can.....	3.35	6	72
5-Gallon Pail.....	14.00		60
400-Pound Drum.....	per pound		.20

*Contains 1/2 pint, net contents. Has screw-top lid with brush attached.

No. 51 Permatex Pipe Joint Compound

A semi-liquid, pipe joint seal for hot and cold water, steam, illuminating gas, lubricating oils, fuel oils, etc.

Extensively used on threaded connections and flange surfaces in pipe lines, pumps, tanks and similar equipment.

Ready for use. The product flows to the bottom of the thread and then holds it position. Does not dry hard. Dis-assembles easily.

The 1/4 and 1-pint cans are supplied with brushes fastened to the covers.



Size Can	1/4 Pt.	1 Pt.	1 Gal.
No. 51.....each	\$.65	1.75	9.50
No. in Case.....	36	24	6
Weight Per Case.....pounds	21	40	70

Smooth-On Iron Cement



Used by mixing with water. For repairing breaks in castings, making tight joints and seams, and stopping leaks in boilers, pipe lines, pressure containers, etc. Becomes hard as iron when metalized, and expands at the same rate. May be used on iron, brass, steel, copper, lead, aluminum, etc., either alone or as a filling compound under a plate, and will withstand fire, water, steam, oil, and high pressures. Sold in powder form.

No. 1, Quick-Hardening Iron Cement

Size Tin Container.....lb. *1 $\frac{3}{4}$ *7 1 5 20 100
Per Container.....†\$.15 †.35 .55 2.20 7.20 31.00

No. 2, Slow-Hardening Hydraulic Iron Cement

Size Tin Container.....pounds 1 5 20 100
Per Container.....†\$.55 2.20 7.20 31.00
*Ounces. †Per tin. †Keg.

No. 7 Smooth-On Iron Cement



A hydraulic iron cement in powder form.

For sealing joints, cracks and stopping leaks in concrete, brick or stone. For making iron hard wearing surface on concrete floors.

Size Container.....pounds 1 5 20 100
Per Container.....\$.30 1.20 4.10 17.00

Smooth-On Iron Cement



For filling blow holes and sand holes in iron and steel castings, smoothing surface blemishes, closing pores in spongy places, covering heads of countersunk bolts.

No. 4AA—Light Gray with High Metallic Luster

May be machined or polished.

Size Can.....1-Lb. 5-Lb. *50-Lb.
No. 4AA.....per container \$.60 2.40 21.00

No. 4A—Medium Gray with Medium Luster

Size Can.....1-Lb. 5-Lb. 20-Lb. *100-Lb.
No. 4A.....per container \$.45 1.70 5.60 25.00

No. 4B—Dark Gray

Size Can.....1-Lb. 5-Lb. 20-Lb. *100-Lb.
No. 4B.....per container \$.35 1.25 4.50 18.50
*Keg.

Black & Decker Electric Glue Heaters

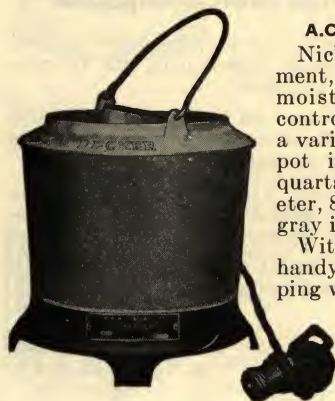
2-Quart Capacity

A.C. and D.C.—For 115 or 220 V.

Nichrome ribbon heating element, insulated by mica plates; moisture-proof. Thermostatic control keeps glue at 150°F. with a variation of less than 5°. Glue pot is cast iron; capacity, 2 quarts; height, 8 $\frac{1}{2}$ inches; diameter, 8 $\frac{1}{2}$ inches. Water jacket is a gray iron casting.

With 3-wire cable and plug and handy carrying handle. Shipping weight, 16 pounds.

115 or 220 Volts, A. C.
No. 89.....each \$27.50
115 or 220 Volts, D.C.
No. 487.....each \$29.50
Specify voltage.



Hollands Glue Pots

Cast aluminum bowl.



Glue

In Bulk

No.	Per Doz.	Cap. Wt. Lb.	Pints per Doz.
000	\$40.80	1 $\frac{1}{2}$	18
00	45.00	$\frac{3}{4}$	20
0	48.00	1	24
1	56.40	1 $\frac{1}{2}$	29
2	66.00	2	35
4	92.40	3	43

A complete line of animal glues in flake, sheet and ground form for sizing, woodworking, paper boxes, emery wheels and all classes of manufacturing.

Flake.....per pound
Sheet.....per pound
Ground.....per pound

Le Page's Glue



Always ready for use for all kinds of mending and patching such articles as wood, leather, cloth, etc.

One of the important features of this adhesive material is the can in which it is packed. This is equipped with a patent top, outside friction, easily opened with a screwdriver and when properly put on is perfectly airtight.

No.....30 31 32 33 35 36
Each.....\$.50 .85 1.50 2.65 7.50 *7.30
Size Can....1-Gill $\frac{1}{2}$ -Pt. 1-Pt. 1-Qt. 1-Gal. 5-Gal.
No. 25, Bottles.....each \$.25
No. 27, Tubes.....each .25

*Per gallon.

Rogers Liquid Glue

Rogers Liquid Glue is especially made for the household, carpenter and mechanic, for cementing wood, leather, glass, crockery, cue tips, etc., and for all work requiring an adhesive of tremendous strength. It is semi-waterproof and for cementing bicycle tires to rim, canvas linings in auto tires, leather belting and for all wood work it has no equal.



Size Container	Per Doz.	No. Doz. in Case	Wt. Lb. Per Case
1-Ounce Bottle.....	\$1.80	12	30
1-Ounce Tube.....	1.80	12	15
Gills.....	6.00	6	30
Half Pints.....	10.20	2	20
Pints.....	18.00	1	18
Quarts.....	31.80	1	35
Gallons.....	90.00	$\frac{1}{2}$	65
5-Gallon Can.....	*7.30	1	60

*Per gallon.

Franklin Liquid Hide Glue

Used extensively for full production work in furniture factories and other industrial woodworking plants.

Always ready for use. No heating, mixing or preparation of any kind is necessary.

Uniformity of spread and strength assured at all times; insures solid, binding joints of outstanding strength and tenacity—actually stronger than the wood itself.

Will hold more than 4000 pounds per square inch and show 100 per cent wood failure.



Gallon

Container..	Tube	$\frac{1}{4}$ -Pt.	$\frac{1}{2}$ -Pt.	1-Pt.	1-Qt.	1-Gal.
Each.....	\$1.15	.50	.85	1.50	2.65	7.50
No. in Case.	36	12	12	12	12	6
Wt., Case, lb.	4	5	10	17	34	65



Quart

Grade A Casco Glue

A dry powder mixed in cold water to make super-strong, quick-setting, liquid glue which becomes water-resistant when set in the joint. Glues all woods, hard and soft; cloth; cardboard; etc. Cements linoleum. Used for all difficult gluing jobs. For householders, homecrafters, schools, cabinet-makers, contractors, etc.



One pound of Casco makes $1\frac{1}{2}$ to 2 quarts of liquid glue.

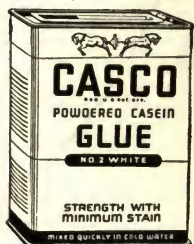
1½-Ounce Can.....	each	\$1.15
¼-Pound Can.....	each	.30
½-Pound Can.....	each	.55
1-Pound Can.....	each	.95
5-Pound Can.....	each	4.50

Can also be supplied in 25, 50 and 100-pound containers.

No. 2 Casco White Glue

A white powdered casein glue for veneers, joints, inlays, etc., which must be glued with minimum stain.

For furniture makers, cabinet makers, manual training schools, etc.



Dry powder; cold water mix. One pound of Casco makes $1\frac{1}{2}$ to 2 quarts of liquid glue; mixed life, 2 to 3 days.

Container.....	pound	½	1	5
Each.....		\$.70	1.20	5.70
No. in Carton.....		24	12	6

Also available in 25, 50 and 100-pound containers.

Cascamite Urea Resin Glue

A dry-powder resin, highly water-resistant glue.

For all indoor wood gluing, such as on plywood, furniture, radios, etc.

Complies with Fed. spec. C-G-496.

Can be extended with household flour for veneering, interior work.

This glue is stain-free, spreads thin and will not discolor thin veneers or oak, mahogany, etc.

Mixes with cold water.

Also available in 25, 50 and 100 lb. containers.



Size Container.....	3½-Oz.	½-Lb.	1-Lb.	5-Lb.
Each.....	.35	.65	.95	3.75
No. in Carton.....	48	24	12	6
Weight per Ctn.....	10½	12	12	30

Cascophen Resorcinol-Resin Glue

Waterproof

For boat-building, outdoor furniture, sports equipment, oily woods. Withstands continuous outdoor exposure, cold or boiling water, moist or dry heat, mold or fungus, tropic heat or zero cold, solvents, acids or alkalis, any exposure that will not damage the wood.

Bonds hard-to-glue joints with great strength and may be used on joints not perfectly fitted. Requires only moderate clamping pressure. Cures quickly at 70°F. Long storage life, at 60 to 70°F.; not spoiled by freezing.

Unit consists of 1 can of liquid resin and 1 can of powdered catalyst.



Size Unit.....	¼-Pt.	1-Pt.	1-Qt.	1-Gal.	5-Gal.
Each.....	\$1.00	2.80	4.60	16.28	72.00
No. in Carton.....	12	6	4	1	1
Wt. per Carton..lb.	4¾	9¾	12½	11¾	59

Casco Flexible Cement



A ready-for-use general purpose adhesive for industrial, home, school or office use.

Unexcelled for bonding dissimilar materials.

Sticks to surfaces on which conventional-type glues do not take: metals, glass, plastics, wood, etc.

Withstands jolts, shocks and expansion.

Size Container.....	*2 Oz.	½ Pt.	1 Pt.	1 Qt.	1 Gal.
Each.....	\$.25	.85	1.40	2.20	6.90
No. to Case.....	6	24	12	8	4

*Tube.

Also packed in 5, 30 and 55 gallon drums. Prices upon application.

3M Weatherstrip Adhesive



For cementing rubber to metal. For replacing or repairing channel rubber in windshields, ventilators and trunk lids; for replacing door header strips and door weather strip; for cementing torn running board mats and rubber patches over worn-out floor mats.

Forms a permanent leakproof bond which will not dry out, chip or crack. Applied with brush, scraper, pressure gun or tube.

Size Containers.....	Tube	1 Pt.	1 Qt.	1 Gal.
Per Container.....	\$.92	\$1.28	\$2.13	\$6.38
Standard Case.....	12	12	12	6
Shipping Weight..pounds	8	16	31	42

Miracle Black Magic Adhesive



A heavy-bodied, solvent type mastic which sets without heat or pressure to a strong, lasting, waterproof bond. Color, black. Contains no asphalt but is scientific combination of resins, rubber and reinforcing agents.

Bonds together all like or unlike rigid materials (metal, glass, rigid plastics, brick, slate, marble, concrete, tile, terrazzo, wallboards, wood, etc.; also, some flexible materials to rigid surfaces, as linoleum, canvas, rubber, cork and certain fabrics).

Furnished in the following types and consistencies:

Type M. General utility cement; medium consistency; fast-setting, plastic.

Type MT. Lighter consistency; slower setting; very plastic.

Type H. Heavy, fast-setting mastic with strong initial bond.

Type P. Tough, flexible adhesive of paint consistency.

Size Container.....	1-Pt.	1-Qt.	1-Gal.	5-Gal.
No. in Carton.....	24	12	4	1

Type M also available as No. 25M, in 1¾-ounce tubes, packed 12 to box, 144 to carton; also as No. 50M, in 5-ounce tubes, packed 6 to box, 72 to carton.

Cantol Waterproof Wax Belt Dressing



Keeps belt flexible. In bars, paste or liquid form.

Description	Each	Per Lb.	Per Gal.	No. DOZEN PACKED IN		Wt. Lb. per Case
				Carton	Case	
2-Oz. Sticks.....	\$.10	....	....	3	24	41
1/2-Lb. Bars.....	.30	....	....	1	6	40
1-Lb. Bars.....	.50	....	....	1	6	80
1-Pt. Cans, Liquid.....	.75	....	....	..	2	30
1-Qt. Cans, Liquid.....	1.25	....	....	..	2	57
1/2-Gal. Cans, Liquid.....	2.00	....	....	..	1	55
1-Gal. Cans, Liquid.....	3.50	....	....	..	1/2	54
5-Gal. Drums, Liquid.....	....	....	\$3.00	..	..	42
30-Gal. Drums, Liquid.....	....	....	2.60	..	..	257
50-Gal. Drums, Liquid.....	....	....	2.50	..	..	423

X Boiler Liquid



Used for repairing leaks in high and low pressure steam boilers and hot water heating systems.

Liquid is a colloid; contains gums which dissolve in hot water.

Does not contain flaxseed, meal, aluminum shavings or any solid that will interfere with the circulation of the heating system, valves, etc.

Size Container.....	1-Qt.	1/2-Gal.
Each.....	\$3.85	5.90
No. in Carton.....	12	6
Weight per Carton..... pounds	34 1/2	32

Porter's Friend Metal Polishing Cream



For maintenance of all highly polished metals. Dissolves tarnish instantly. Will not scratch or injure the finest surface. Gives brilliant sheen. Maintains luster with a protective coating.

Does not stain the hands. Does not evaporate. Leaves no taste or odor. Requires no shaking.

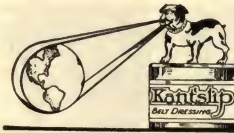
Non-explosive, non-injurious, non-poisonous, non-inflammable, non-settling and non-acid.

For polishing silver, brass, bronze, chromium, glass, porcelain, etc.

Size	Each	No. in Case	Case Wt., Lb.
1/4 Pint.....	\$.35	36	18
1/2 Pint.....	.60	24	20
Pint.....	1.00	24	38
Quart.....	1.50	12	35
1/2 Gallon.....	2.50	6	32
Gallon.....	4.00	4	42
30-Gallon Drum.....	75.00	..	310
55-Gallon Drum.....	123.75	..	575

Kant-Slip Liquid Belt Dressing

For Leather, Canvas and Rubber Belts



Kant-Slip Belt Dressing prolongs the life of leather and canvas belts by penetrating the belt, making it pliable and waterproof and leaving the surface clean under all conditions.

Applied to rubber belts, it gives adhesion to the surface and makes the belt grip the pulley, delivering maximum power.

Applied while the belt is in motion through a small applicator can which is furnished at no extra charge.

	*1-Qt. Can	*1/2-Gal. Can	1-Gal. Can	5-Gal. Keg	15-Gal. Drum	30-Gal. Drum	50-Gal. Drum
Container.....							
Per Gallon.....	\$1.50	2.75	5.00	4.75	4.50	4.25	4.00

*Per can.

Reliance Oak Tanned Round Leather Belting



The belts are of high grade leather and good workmanship and are preferred in hundreds of plants. The tensile strength is high and the life of the belts in service very satisfactory. Put up in 100-foot spools in all sizes.

Sold from regular round leather belt list.

Burnishine Liquid Metal Polish

Polishes all metals. Produces an exceptionally brilliant and long lasting luster. Recommended for stainless steel, aluminum, monel and such metals that are difficult to polish. Removes rust from chromium and nickel-plated metals.

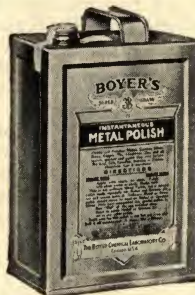
Quickly and easily polishes brass, copper bronze, etc. Especially good for automobile bumpers and chrome trim.



No.	Each	Size of Can	Case Contains Dozens	Weight Lb. per Case
3-A	\$.30	1/2 Pt.	3	30
4-A	.54	1 Pt.	2	35
5-A	.90	1 Qt.	1	35
6-A	1.50	1/2 Gal.	1	65
7-A	2.40	1 Gal.	1/2	65
Bulk-A	10.00	5 Gal.	1	47
Bulk-A	*1.60	†30 Gal.	1	275
Bulk-A	*1.60	†55 Gal.	1	495

*Per gallon. †Drum

No. 3B Boyer Instantaneous Metal Polish



This is a liquid polish which cleans brass and copper easily and quickly.

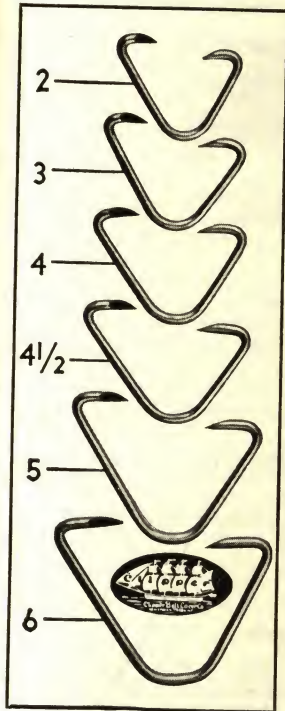
Double strength. Concentrated.

Contains no acid, grit, grease, benzine or poison.

Requires no red label.

Size Can.....	1/2 Pt.	1 Pt.	1 Qt.	1 Gal.
Per Can.....	\$.35	.60	1.00	3.00

Clipper Belt Lacing



Clipper Belt Lacing makes a smooth joint, flexible as the belt itself. The hooks are made of a highly specialized steel wire. It combines great tensile strength and wearing qualities. Capable of standing strain of 400 pounds per inch.



Reinforcing strip prevents card from collapsing and permits cutting of card with a knife without waste.



Double-Staggered Grip Showing Even Distribution of Hook Point Strain on the Belt

No. 1 box contains 20 cards of 50 hooks each and 12 Lubrihide pins. Nos. 2 to 6 are packed twelve, 12-inch cards (144") per box with a sufficient quantity of Lubrihide pins. Packed 25 boxes in standard carton.

No.	Description	Regular	Ship. Wt. Lb.
1	For Use in Nos. 1 and 101 Lacers	\$1.55	17
2	For Thin Belts $\frac{3}{16}$ " Thick over Small Pulley	1.80	31
3	For Thin Belts $\frac{3}{16}$ " Thick over Med. Pulley	1.85	33
4	For Belts Not over $\frac{1}{4}$ Inch Thick	1.85	35
4 1/2	For Heavy Duty Belts, $\frac{1}{4}$ Inch Thick	2.00	39
5	For Belts Not over $\frac{5}{16}$ Inch Thick	2.20	46
6	For Belts Not over $\frac{3}{8}$ Inch Thick	2.75	56

Clipper Connecting Pins



Wear 2 to 4 times longer; built-in lubrication. Bamboo pins are waterproof and long wearing; for use under wet conditions.

Packed in Standard packages of 24 pins, 12 inches long. Standard packages range in weight from $\frac{3}{4}$ to 4 1/2 ounces.

Size Diam.	No.	In.	For	Lubrihide per Pkg.	Rawhide per Pkg.	Bamboo per Pkg.
13	$\frac{3}{32}$		Nos. 1, 2, and 3 Hooks	\$1.85	\$1.75	\$1.55
12	$\frac{1}{16}$		Nos. 4 and 4 1/2 Hooks	1.85	1.75	1.55
11	$\frac{1}{8}$		No. 5 Hooks	1.85	1.75	1.55
10	$\frac{9}{64}$		No. 5 Hooks	2.35	2.25	1.95
9	$\frac{5}{32}$		No. 6 Hooks	2.65	2.55	2.20
8	$\frac{11}{64}$		No. 6 Hooks	3.00	2.90	2.50
7	$\frac{3}{16}$		For Special Purposes	3.50		
5	$\frac{1}{2}$		For Special Purposes	4.95		
Assorted			Sizes, Nos. 8 to 13	2.15	2.05	1.80

Clipper Belt Cutters

Open End Model

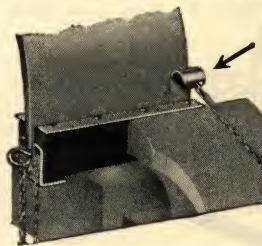
For cutting belting from roll or squaring belt ends, preparatory to lacing them. Strongly and sturdily built.

Sizes.....inches	6	10
Each.....	\$17.50	\$22.75
Extra Blades each	1.85	3.15
Weight...pounds	11	16



Clipper Belt Lacers

No. 0 Vice Lacers



For use in any ordinary vise. For belts 4 to 6 inches wide. Special pressure plate as indicated by arrow makes it possible to embed the hooks flush with the surface of the belt, also to clinch the points.

Size.....inches	4	6
Each.....	\$4.50	\$5.50
Weight...pounds	4	6

No. 9 Portable Lacers



Easily carried to the belt. Laces one end of any belt up to 6 inches wide and not over $\frac{3}{8}$ inch thick in one operation, forming a perfect line of loops. For wider belts repeat. Perfect loops permit the use of larger connecting pins, therefore longer service.

Each hook makes a perfect contact with connecting pin. This distributes pull equally on every hook in joint.

No. 9, Complete with Stand; Wt., 56 Lb.....	each \$59.00
Special Adapter for No. 1 Hooks, Laces Thin Belts from $\frac{1}{8}$ to $\frac{1}{32}$ Inch Thick.....	each 3.70

No. 8 Speed Lacers



Will lace one end of any belt up to 8 inches wide in one operation. For wider belts repeat operation. A three-quarter turn of double end crank will embed hooks flush with the surface of any belt and clinch points. Clinch keeps hooks from working up and becoming worn or fatigued by pounding on the pulleys.

Suitable for all belts up to $\frac{3}{8}$ inch thick.

Also available with 12-inch jaws for lacing belts of this width in one operation.

No. 8, Complete with Stand; Wt., 175 Lb.....	each \$170.00
No. 8, with 12-Inch Jaw.....	each 293.00

No. 6 Speed Lacers

Built on the same principle as the No. 8 but is smaller.

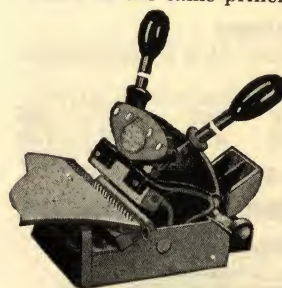
Will lace one end of any belt up to 6 inches wide in one operation. Weight with stand, 120 pounds.

No. 6, Complete with Stand.....	each \$127.00
---------------------------------	---------------

No. 3

For lacing one end of any belt not exceeding 6 inches wide and $\frac{3}{8}$ inch thick in one operation. For wider belts repeat operation.

Weight, 25 pounds.	
No. 3.....	each \$38.00



No. 3

Nos. 1 and 101

Use only No. 1 belt hooks. For belts not more than 2 inches wide and not exceeding $\frac{1}{32}$ inch thick.

	Portable Type	Vise Type
No.....	1	101
Each....	\$14.25	4.25
Weight		
pounds	4	1

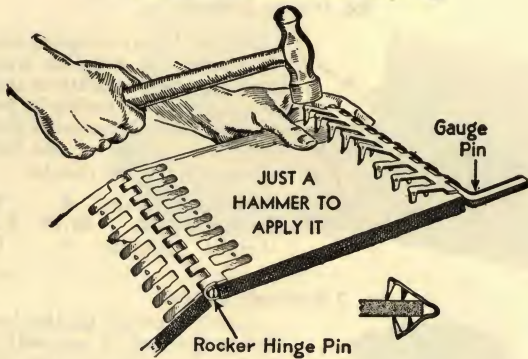


No. 101



No. 1

Alligator Steel Belt Lacing



For joining conveyor and transmission belting of all the generally used kinds—solid woven, stitched canvas, rubber, balata, composition and leather. For general service and heavy duty. Makes a smooth, flexible joint. Furnished in 12 sizes for joining belts up through $\frac{5}{8}$ -inch thickness and up to 96 inches in width. No special tools required. Just a hammer to apply it. Available in standard boxes and in long lengths for wide conveyor belts.

Box No.	Per Box	Lacing No.	CONTENTS No. Sets	For Size Belts, In.	Thickness of Belt Inches	Wt. Lb.
00	\$1.40	00	6	6	Up to $\frac{1}{16}$	0.2
1	1.60	1	6	6	$\frac{1}{16}$ to $\frac{3}{32}$	0.4
5	1.80	5	6	6	$\frac{3}{32}$ to $\frac{1}{8}$	0.6
15	1.90	15	4	12	$\frac{1}{8}$ to $\frac{5}{32}$	1.0
20	2.00	20	4	12	$\frac{5}{32}$ to $\frac{3}{16}$	1.3
25D	2.50	25	4	12	$\frac{3}{16}$ to $\frac{7}{32}$	1.5
25F	2.50	25	6	8	$\frac{3}{16}$ to $\frac{7}{32}$	1.4
25G	5.00	25	8	12	$\frac{3}{16}$ to $\frac{1}{2}$	2.7
27K	2.65	27	4	12	$\frac{1}{4}$ to $\frac{9}{32}$	1.8
27L	5.30	27	8	12	$\frac{1}{4}$ to $\frac{9}{32}$	3.3
35M	2.30	35	4	8	$\frac{5}{32}$ to $\frac{3}{16}$	1.8
35N	3.40	35	4	12	$\frac{5}{32}$ to $\frac{5}{16}$	2.7
45U	4.50	45	4	12	$\frac{5}{16}$ to $\frac{3}{8}$	3.4
55W	5.20	55	4	12	$\frac{3}{8}$ to $\frac{1}{2}$	4.9
65X	6.00	65	4	12	$\frac{1}{2}$ to $\frac{1}{2}$	6.0
75	8.80	75	4	12	$\frac{1}{2}$ to $\frac{5}{8}$	10.0

Long length prices furnished upon request.

Corrugated pins supplied with Nos. 00, 1 and 5 and with long lengths which are to be used to join conveyor belts.

Sectional steel rocker hinge pins supplied in standard boxes Nos. 15 to 75 inclusive and recommended for transmission service. Rawhide hinge pins supplied with Nos. 00 to 45U inclusive only upon request.

Economy Packages

Each package contains one 12-inch set of lacing complete with gage and hinge pins.

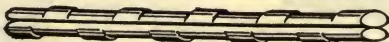
Packed in cartons, 10 packages of single size to carton.

Size No.	15E	20E	25E	27E	35E
Per Carton	\$4.75	5.00	6.25	6.65	8.50

Extra Hinge Pins—Cut to Suit Requirements

Corrugated Wire Pin
For Nos. 00 to 75 Inclusive

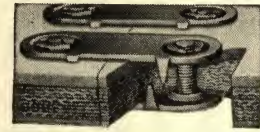
Twisted Rawhide
For Nos. 00 to 45 Inclusive



Rocker Hinge Pin
For Nos. 15 to 75 Inclusive

Description	Per Dozen	For Lacing No.	Lgth. Pins In.
Corrugated Wire or Rawhide Pins	\$.40	00	6
Corrugated Wire or Rawhide Pins	.40	1	6
Corrugated Wire or Rawhide Pins	.40	5	6
Rocker, Corrugated or Rawhide Pins	.90	15	12
Rocker, Corrugated or Rawhide Pins	.90	20	12
Rocker, Corrugated or Rawhide Pins	.90	25	12
Rocker, Corrugated or Rawhide Pins	1.00	27	12
Rocker, Corrugated or Rawhide Pins	1.00	35	12
Rocker, Corrugated or Rawhide Pins	1.20	45	12
Rocker or Corrugated Pins Only	1.40	55-65	12
Rocker or Corrugated Pins Only	1.70	75	12

Flexco H D Steel Belt Fasteners For Conveyor and Elevator Belting



Compression principle is the most successful method of joining belting mechanically. For tight butt joints in heavy duty conveyor and bucket belts the Flexco H D Fastener gives satisfactory service.

Plates are cupped to receive the nuts and bolt heads. Finished joint is practically flush with the surface of the belt and operates satisfactorily through trippers and takeup pulleys.

Strain is distributed over the whole space covered by the plates. Completed joint is tight and will not permit loss of material through joint. It troughs naturally and conforms readily to crowned pulleys.

Standard Boxes

Each box contains 10 sets of fasteners complete with plates, bolts, nuts and clips.

No.	1	1 1/4	1 1/2	2	2 1/2	3
Per Box	\$6.00	6.50	7.00	8.00	12.00	13.00
For Belt Thick. in.	1/4-3/8	3/8-1/2	1/2-11/16	5/8-13/16	3/4-1	15/16 Up
Min. Pulley Diam. in.	12	14	18	30	42	48
Weight.....lb.	1	1.8	2.3	3	6	6.6

Extra Parts

No.	1	1 1/4	1 1/2	2	2 1/2	3
Upper Plates...	\$11.00	\$11.50	\$12.00	\$18.00	\$24.00	\$30.00
*Lower Plates..	11.00	11.50	12.00	18.00	24.00	30.00
Clips.....	2.00	2.25	2.50	3.00	5.00	5.00
Bolts and Nuts.	20.00	25.00	25.00	25.00	40.00	40.00
Bolts.....	8.00	10.00	10.00	10.00	16.00	16.00
Nuts.....	12.00	15.00	15.00	15.00	24.00	24.00

*Including clips.

Flexco H D Belt Fasteners

For Conveyor and Elevator Belting
Monel Metal and Stainless Steel (Non-Rusting)

Recommended for use under conditions that stimulate rust and corrosion of steel.

Size In.	Standard Box Complete per 10 Sets	Upper Plates Each	Lower Plates Each	Bolts Each	Nuts Each	For Thick Belt Inches	Min. Pulley Diam. Inches
1	\$30.00	\$.50	\$.50	\$.40	\$.60	1/4-7/16	12
1 1/4	35.00	.60	.60	.45	.70	3/8-1 1/2	14
1 1/2	40.00	.85	.85	.45	.70	7/16-1 1/2	18
2	47.00	1.20	1.20	.45	.70	5/8-1 1/2	30
2 1/2	70.00	2.00	2.00	.60	.90	3/4-1	42
3	80.00	2.50	2.50	.60	.90	15/16-Up	48

Everdur (Non-Magnetic)

Non-magnetic; used on conveyors that run over magnetic pulley.

1	\$20.00	\$.35	\$.35	\$.25	\$.40	1/4-7/16	12
1 1/4	25.00	.40	.40	.35	.50	3/8-1 1/2	14
1 1/2	30.00	.65	.65	.35	.50	7/16-1 1/2	18
2	35.00	.90	.90	.35	.50	5/8-1 1/2	30
2 1/2	45.00	1.15	1.15	.40	.70	3/4-1	42
3	50.00	1.40	1.40	.40	.70	15/16-Up	48

*Promal Upper Plates (Abrasion Resisting)

A malleable cast iron specially heat-treated to be highly resistant to abrasion; recommended for coke conveyors.

1	\$9.10	\$.40	...	...	...	1/4-7/16	12
1 1/4	10.65	.45	...	...	...	3/8-1 1/2	14
1 1/2	11.20	.50	...	...	...	7/16-1 1/2	18
2	13.80	.70	...	...	...	5/8-1 1/2	30
2 1/2	19.40	.90	...	...	...	3/4-1	42
3	21.00	1.00	...	...	...	15/16-Up	48

*Upper plates only. Boxes contain Promal upper plates, steel bottom plates, steel bolts and nuts.

Flexco Tools for H D Belt Fasteners

Straight Side Belt Punches



Size No.	1	2	3
Each	\$4.00	5.00	7.00
For Fastener No.	1,RP1	1 1/4, 1 1/2, 2, RP2	2 1/2, 3

Wrenches



Size No.	1	2	3
Each	\$2.25	2.25	2.25
For Fastener No.	1,RP1	1 1/4, 1 1/2, 2, RP2	2 1/2, 3

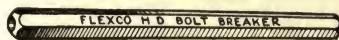
Boring Bits



Bores a clean hole quickly.

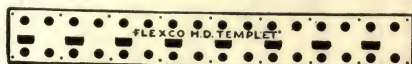
Size No.	1	2	3
Each	\$2.25	2.25	2.25
For Fastener No.	1,RP1	1 1/4, 1 1/2, 2, RP2	2 1/2, 3

Bolt Breakers



Size No.	1	2	3
Each	\$1.25	1.50	2.00
For Fastener No.	1	1 1/4, 1 1/2, 2	2 1/2, 3

Templats



For easy application. Makes a tight butt joint. Furnished in 12-inch to 96-inch lengths.

12-Inch Length.....each \$4.00
Longer templats at 20 cents per added inch or \$2.00 per added foot. Average weight 24-inch templat, 2.5 pounds.

Wire Belt Lacing

Perfection and O.K. Brands

Made of a special mixture of metals put through a special annealing process.

Exceedingly tough and pliable; slow to crystallize or break in service. Easily applied.



Gage No.	Single Belt Width Inches
00	Up to 1 1/2
0	1 1/2 to 3
1	3 to 6
2	*6 to 12
3	†Above 8

*Also for double belts up to 8 inches wide.

†For double belts only.

No. 245 Johnson Saddlers' Punches

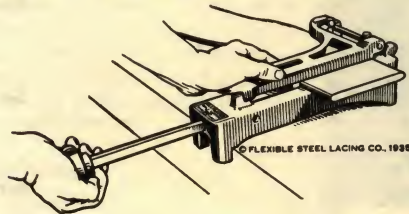


Made of high grade steel. Barrel is swaged and polished and the slot is milled out. Packed 1 dozen in a box.

No.	Per Dozen	Size Hole Inches	Weight Pounds per Dozen	No.	Per Dozen	Size Hole Inches	Weight Pounds per Dozen
1	3/32	1	9	....	1/4	1 1/4
2	7/64	1	10	....	17/64	2 1/8
3	1/8	1	11	....	9/32	2 1/8
4	9/64	1	12	....	5/16	2 1/8
5	5/32	1	13	....	11/32	3 1/4
6	11/64	1	14	....	3/8	3 1/4
7	3/16	1 1/4	15	....	13/32	3 1/4
8	7/32	1 1/4	16	....	7/16	3 1/4

Alligator Belt Cutters

Will cut any belt (except metal stitched) up to 1/2-inch thick by 8 inches in width. Combination guard and equalizing hold down clamp holds belt immovable while cut is being made. Knife is mounted on a plunger in a slot; operates by a direct arm push. Alloy steel knife, will make several thousand cuts; readily replaceable. Aluminum alloy clamp and frame. Cutter used in horizontal position on bench or up-ended on floor. Packed 1 in carton, weight 5 1/2 pounds.



Each.....\$25.00
Extra Knives.....each 2.00

No. 5 Heller Arch Punches



Used for cutting canvas, felt, leather, sheet lead, soft brass and copper sheets, and other soft materials.

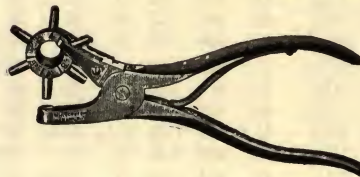
Made of alloy tool steel high in wearing and shock-resisting qualities which eliminate danger of crystallization.

Size 1-inch and under, packed 2 in a box; over, 1 in a box.

Diam. Hole Inches	Per Dozen	Diam. Hole Inches	Per Dozen	Diam. Hole Inches	Per Dozen	Diam. Hole Inches	Per Dozen
3/16	\$19.14	9/16	\$22.58	15/16	\$45.00	15/16	\$55.50
1/4	19.14	5/8	22.58	1	45.00	13/8	55.50
5/16	19.14	11/16	23.92	1 1/16	50.00	17/16	61.50
3/8	19.14	3/4	30.08	1 1/8	50.00	1 1/2	61.50
7/16	20.10	13/16	37.50	1 3/16	52.00	1 5/8	99.50
1/2	20.10	7/8	37.50	1 1/4	52.00	1 5/8	99.50

No. 225 Johnson 6-Tube Revolving Spring Punches

Forged Steel



Joints are carefully fitted and rollers are machined from bar steel. Tubes are drilled from the rear to prevent clogging.

Well hardened and tempered.

Strong enough to stand the rough usage of the leather trade. Packed 6 in a box.

No.	225
Per Dozen	....
Tube Numbers	2-4-6-7-8-10
Length	8 inches
Weight per Dozen	10 pounds

No. 115 Bernard Round Belt Pliers



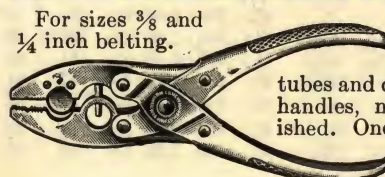
For 3/8-inch round belt.

Length, 6 inches.

Nickel-plated and polished.

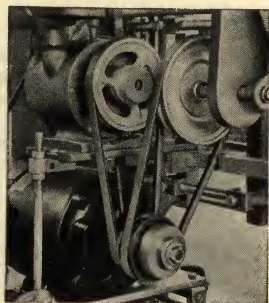
No. 115 ..per dozen \$42.00

No. 119-6 Bernard Round Belt Punch Pliers



For sizes 3/8 and 1/4 inch belting.

Compound lever-age, parallel jaws, replaceable screw tubes and cutting blades. Sealed handles, nickel-plated and polished. One in box; 6 in carton; weight, 3 1/4 pounds. Per dozen... \$42.00



U. S. Rainbow Standard Light Duty V-Belts

Series 3L—Cross Section $1\frac{3}{32}$ Inch Wide, $\frac{1}{4}$ Inch ThickSeries 4L—Cross Section $\frac{1}{2}$ Inch Wide, $1\frac{1}{32}$ Inch ThickSeries 5L—Cross Section $2\frac{1}{32}$ Inch Wide, $\frac{7}{16}$ Inch Thick

Series 3 L

No.	Each	NOMINAL LENGTHS INCHES		
		Out-side	Pitch	In-side
3L 150	\$1.18	15	14 $\frac{3}{8}$	13 $\frac{7}{16}$
3L 160	1.18	16	15 $\frac{3}{8}$	14 $\frac{7}{16}$
3L 170	1.18	17	16 $\frac{3}{8}$	15 $\frac{7}{16}$
3L 180	1.18	18	17 $\frac{3}{8}$	16 $\frac{7}{16}$
3L 190	1.18	19	18 $\frac{3}{8}$	17 $\frac{7}{16}$
3L 200	1.18	20	19 $\frac{3}{8}$	18 $\frac{7}{16}$
3L 210	1.18	21	20 $\frac{3}{8}$	19 $\frac{7}{16}$
3L 220	1.18	22	21 $\frac{3}{8}$	20 $\frac{7}{16}$
3LS 225	1.18	22 $\frac{1}{2}$	21 $\frac{3}{8}$	20 $\frac{13}{16}$
3L 230	1.18	23	22 $\frac{3}{8}$	21 $\frac{7}{16}$
3L 240	1.18	24	23 $\frac{3}{8}$	22 $\frac{7}{16}$
3L 250	1.18	25	24 $\frac{3}{8}$	23 $\frac{7}{16}$
3LS 255	1.20	25 $\frac{1}{2}$	24 $\frac{3}{8}$	23 $\frac{13}{16}$
3L 260	1.20	26	25 $\frac{3}{8}$	24 $\frac{7}{16}$
3LS 265	1.22	26 $\frac{1}{2}$	25 $\frac{3}{8}$	24 $\frac{13}{16}$
3L 270	1.22	27	26 $\frac{3}{8}$	25 $\frac{7}{16}$
3L 280	1.24	28	27 $\frac{3}{8}$	26 $\frac{7}{16}$
3LS 285	1.26	28 $\frac{1}{2}$	27 $\frac{3}{8}$	26 $\frac{13}{16}$
3L 290	1.26	29	28 $\frac{3}{8}$	27 $\frac{7}{16}$
3L 300	1.28	30	29 $\frac{3}{8}$	28 $\frac{7}{16}$
3L 310	1.29	31	30 $\frac{3}{8}$	29 $\frac{7}{16}$
3L 320	1.31	32	31 $\frac{3}{8}$	30 $\frac{7}{16}$
3L 330	1.33	33	32 $\frac{3}{8}$	31 $\frac{7}{16}$
3L 340	1.35	34	33 $\frac{3}{8}$	32 $\frac{7}{16}$
3L 350	1.38	35	34 $\frac{3}{8}$	33 $\frac{7}{16}$
3LS 355	1.40	35 $\frac{1}{2}$	34 $\frac{3}{8}$	33 $\frac{13}{16}$
3L 360	1.40	36	35 $\frac{3}{8}$	34 $\frac{7}{16}$
3L 370	1.43	37	36 $\frac{3}{8}$	35 $\frac{7}{16}$
3L 380	1.46	38	37 $\frac{3}{8}$	36 $\frac{7}{16}$
3L 390	1.49	39	38 $\frac{3}{8}$	37 $\frac{7}{16}$
3L 400	1.52	40	39 $\frac{3}{8}$	38 $\frac{7}{16}$
3L 410	1.55	41	40 $\frac{3}{8}$	39 $\frac{7}{16}$
3L 420	1.57	42	41 $\frac{3}{8}$	40 $\frac{7}{16}$
3L 430	1.59	43	42 $\frac{3}{8}$	41 $\frac{7}{16}$
3L 440	1.61	44	43 $\frac{3}{8}$	42 $\frac{7}{16}$
3L 450	1.64	45	44 $\frac{3}{8}$	43 $\frac{7}{16}$
3L 460	1.66	46	45 $\frac{3}{8}$	44 $\frac{7}{16}$
3L 470	1.69	47	46 $\frac{3}{8}$	45 $\frac{7}{16}$
3LS 485	1.73	48 $\frac{1}{2}$	47 $\frac{3}{8}$	46 $\frac{13}{16}$
3L 490	1.73	49	48 $\frac{3}{8}$	47 $\frac{7}{16}$
3L 500	1.75	50	49 $\frac{3}{8}$	48 $\frac{7}{16}$
3LS 510	1.77	51	50 $\frac{3}{8}$	49 $\frac{13}{16}$
3LS 530	1.81	53	52 $\frac{3}{8}$	51 $\frac{7}{16}$
3L 540	1.83	54	53 $\frac{3}{8}$	52 $\frac{7}{16}$
3L 560	1.87	56	55 $\frac{3}{8}$	54 $\frac{7}{16}$
3L 580	1.91	58	57 $\frac{3}{8}$	56 $\frac{7}{16}$
3LS 590	1.93	59	58 $\frac{3}{8}$	57 $\frac{13}{16}$
3LS 595	1.95	59 $\frac{1}{2}$	58 $\frac{3}{8}$	58

Series 4 L

4LS 170	\$1.24	17	16 $\frac{1}{16}$	15 $\frac{1}{4}$
4L 180	1.24	18	17 $\frac{1}{16}$	16 $\frac{1}{4}$
4L 190	1.24	19	18	16 $\frac{13}{16}$
4L 200	1.24	20	19	18
4L 210	1.24	21	20	19
4LS 215	1.24	21 $\frac{1}{2}$	20 $\frac{1}{2}$	19 $\frac{1}{16}$

Series 4 L

No.	Each	NOMINAL LENGTHS INCHES		
		Out-side	Pitch	In-side
4L 220	\$1.24	22	21	20
4LS 225	1.24	22 $\frac{1}{2}$	21 $\frac{1}{2}$	20 $\frac{1}{2}$
4L 230	1.24	23	22	21
4L 240	1.24	24	23	22
4LS 245	1.24	24 $\frac{1}{2}$	23 $\frac{1}{2}$	22 $\frac{1}{2}$
4L 250	1.24	25	24	23
4L 260	1.26	26	25	24
4LS 265	1.28	26 $\frac{1}{2}$	25 $\frac{5}{8}$	24 $\frac{1}{2}$
4L 270	1.28	27	26	25
4L 280	1.30	28	27	26
4L 290	1.32	29	28	27
4L 300	1.34	30	29	27 $\frac{27}{32}$
4L 310	1.36	31	30	29
4LS 315	1.38	31 $\frac{1}{2}$	30 $\frac{1}{2}$	29 $\frac{1}{2}$
4L 320	1.38	32	31	30 $\frac{1}{8}$
4LS 325	1.40	32 $\frac{1}{2}$	31 $\frac{1}{2}$	30 $\frac{3}{8}$
4L 330	1.40	33	32	31
4LS 335	1.43	33 $\frac{1}{2}$	32 $\frac{1}{2}$	31 $\frac{3}{8}$
4L 340	1.43	34	33	32
4LS 345	1.45	34 $\frac{1}{2}$	33 $\frac{1}{2}$	32 $\frac{3}{8}$
4L 350	1.45	35	34	33
4L 360	1.48	36	35	34
4L 370	1.50	37	36	35
4L 380	1.53	38	37	36
4L 390	1.57	39	38	36 $\frac{59}{64}$
4LS 395	1.60	39 $\frac{1}{2}$	38 $\frac{1}{2}$	37 $\frac{1}{2}$
4L 400	1.60	40	39	38
4L 410	1.63	41	40	39
4LS 415	1.65	41 $\frac{1}{2}$	40 $\frac{1}{2}$	39 $\frac{11}{16}$
4L 420	1.65	42	41	39 $\frac{1}{16}$
4L 430	1.68	43	41 $\frac{27}{32}$	40 $\frac{27}{32}$
4LS 435	1.72	43 $\frac{1}{2}$	42 $\frac{1}{2}$	41 $\frac{1}{16}$
4L 440	1.72	44	43	42
4L 450	1.75	45	44	43
4LS 455	1.77	45 $\frac{1}{2}$	44 $\frac{1}{2}$	43 $\frac{1}{2}$
4L 460	1.77	46	45	43 $\frac{13}{16}$
4L 470	1.79	47	46	45
4L 480	1.80	48	47	46
4L 490	1.82	49	48	47
4L 500	1.84	50	49	47 $\frac{13}{16}$
4L 510	1.86	51	50	48 $\frac{27}{32}$
4L 520	1.88	52	51	49 $\frac{3}{4}$
4L 530	1.90	53	52	51
4L 540	1.92	54	53	52
4LS 545	1.94	54 $\frac{1}{2}$	53 $\frac{1}{2}$	52 $\frac{1}{16}$
4L 550	1.94	55	54	53
4L 560	1.97	56	55	53 $\frac{7}{8}$
4L 570	1.99	57	56	55
4L 580	2.01	58	57	56
4L 590	2.03	59	57 $\frac{27}{32}$	56 $\frac{27}{32}$
4L 600	2.06	60	59	57 $\frac{13}{16}$
4L 610	2.08	61	60	59
4L 620	2.10	62	61	60
4L 630	2.13	63	62	61
4L 640	2.15	64	63	62
4L 650	2.18	65	64	63
4L 660	2.20	66	65	64

Series 4 L

No.	Each	NOMINAL LENGTHS INCHES		
		Out-side	Pitch	In-side
4L 670	\$2.22	67	66	65
4L 680	2.25	68	67	65 $\frac{13}{16}$
4LS 685	2.28	68 $\frac{1}{2}$	67 $\frac{1}{2}$	66 $\frac{1}{2}$
4L 690	2.28	69	68	67
4L 700	2.30	70	69	68
4L 710	2.35	71	70	68 $\frac{3}{4}$
4L 720	2.40	72	71	70
4LS 725	2.42	72 $\frac{1}{2}$	71 $\frac{1}{2}$	70 $\frac{3}{4}$
4L 730	2.42	73	72	71
4L 740	2.43	74	73	72
4L 750	2.45	75	73 $\frac{27}{32}$	72 $\frac{27}{32}$
4L 760	2.47	76	75	73 $\frac{3}{4}$
4L 770	2.50	77	76	75
4L 780	2.54	78	76 $\frac{27}{32}$	75 $\frac{27}{32}$
4L 790	2.58	79	77 $\frac{27}{32}$	76 $\frac{27}{32}$
4L 800	2.62	80	79	77 $\frac{1}{16}$
4L 820	2.70	82	81	80
4L 840	2.78	84	83	82
4LS 850	2.82	85	84	83
4L 860	2.86	86	85	84
4LS 870	2.90	87	86	85
4L 880	2.94	88	87	86
4L 900	3.02	90	89	88
4L 920	3.10	92	91	90
4L 940	3.17	94	93	92
4L 960	3.24	96	95	93 $\frac{1}{2}$
4L 980	3.30	98	97	96
4L 1000	3.37	100	99	98

Series 5 L

5L 250	\$1.52	25	23 $\frac{3}{4}$	22 $\frac{1}{4}$	5L 760	3.51	76	74 $\frac{3}{4}$	73
5L 260	1.56	26	24 $\frac{3}{4}$	23 $\frac{1}{4}$	5L 770	3.56	77	75 $\frac{3}{4}$	74 $\frac{1}{4}$
5L 270	1.60	27	25 $\frac{3}{4}$	24 $\frac{1}{4}$	5L 780	3.60	78	76 $\frac{3}{4}$	75
5L 280	1.63	28	26 $\frac{3}{4}$	25 $\frac{1}{4}$	5L 790	3.65	79	77 $\frac{3}{4}$	76 $\frac{1}{4}$
5L 290	1.67	29	27 $\frac{3}{4}$	26 $\frac{1}{2}$ ³²	5L 800	3.70	80	78 $\frac{3}{4}$	77
5L 300	1.70	30	28 $\frac{3}{4}$	27 $\frac{1}{4}$	5LS 810	3.75	81	79 $\frac{3}{4}$	78 $\frac{1}{4}$
5L 310	1.74	31	29 $\frac{3}{4}$	28 $\frac{1}{4}$	5L 820	3.80	82	80 $\frac{3}{4}$	79
5L 320	1.78	32	30 $\frac{3}{4}$	29 $\frac{1}{4}$	5LS 830	3.85	83	81 $\frac{3}{4}$	80 $\frac{1}{4}$
5L 330	1.82	33	31 $\frac{3}{4}$	30 $\frac{1}{4}$	5L 840	3.90	84	82 $\frac{3}{4}$	81
5L 340	1.86	34	32 $\frac{3}{4}$	31 $\frac{1}{2}$	5LS 850	4.00	85	83 $\frac{3}{4}$	82
5L 350	1.89	35	33 $\frac{3}{4}$	32 $\frac{1}{4}$	5L 860	4.03	86	84 $\frac{3}{4}$	83
5L 360	1.93	36	34 $\frac{3}{4}$	33 $\frac{3}{8}$	5LS 870	4.07	87	85 $\frac{3}{4}$	84 $\frac{1}{4}$
5LS 365	1.96	36 $\frac{1}{2}$	35 $\frac{1}{4}$	34	5L 880	4.10	88	86 $\frac{3}{4}$	85
5L 370	1.96	37	35 $\frac{3}{4}$	34 $\frac{1}{4}$	5LS 895	4.18	89 $\frac{1}{2}$	88 $\frac{1}{4}$	86 $\frac{1}{2}$
5L 380	2.00	38	36 $\frac{3}{4}$	35	5L 900	4.18	90	98 $\frac{3}{4}$	87 $\frac{1}{4}$
5L 390	2.06	39	37 $\frac{3}{4}$	36 $\frac{1}{4}$	5LS 910	4.22	91	89 $\frac{3}{4}$	88
5L 400	2.14	40	38 $\frac{3}{4}$	37 $\frac{1}{4}$	5L 920	4.26	92	90 $\frac{3}{4}$	89 $\frac{1}{4}$
5L 410	2.20	41	39 $\frac{3}{4}$	38	5LS 930	4.30	93	91 $\frac{3}{4}$	90
5L 420	2.25	42	40 $\frac{25}{32}$ ³²	39 $\frac{25}{32}$ ³²	5L 940	4.36	94	92 $\frac{3}{4}$	91 $\frac{1}{4}$
5LS 425	2.30	42 $\frac{1}{2}$	41 $\frac{1}{4}$	39 $\frac{15}{32}$ ³²	5L 960	4.50	96	94 $\frac{3}{4}$	93
5L 430	2.30	43	42	40 $\frac{1}{4}$	5L 980	4.60	98	96 $\frac{3}{4}$	95 $\frac{1}{4}$
5L 440	2.35	44	42 $\frac{3}{4}$	41 $\frac{1}{4}$	5LS 995	4.70	99 $\frac{1}{2}$	98 $\frac{1}{4}$	97
5L 450	2.40	45	43 $\frac{3}{4}$	42	5L 1000	4.70	100	98 $\frac{3}{4}$	97 $\frac{1}{4}$
5L 460	2.45	46	44 $\frac{3}{4}$	43 $\frac{1}{4}$	..	.....	.....	.....	.....
5L 470	2.50	47	45 $\frac{3}{4}$	44 $\frac{1}{4}$	..	.....	.....	.....	.....
5LS 475	2.55	47 $\frac{1}{2}$	46 $\frac{1}{4}$	44 $\frac{3}{4}$	..	.....	.....	.....	.....
5L 480	2.55	48	46 $\frac{3}{4}$	45 $\frac{1}{4}$	..	.....	.....	.....	.....
5L 490	2.60	49	47 $\frac{3}{4}$	46	..	.....	.....	.....	.....

Maurey Universal Single Groove Steel V-Pulleys

No Die Cast Hubs Used.

Pulleys are welded with solid steel or malleable iron hubs, will not work loose.
A Pulleys, size 4½-inch o.d. and larger, where bore is over 1 inch. Type 4 cast iron riveted hub is used. Pulley dimension B is 1⅝ inches and C is 1½ inches.

B Pulleys, Nos. 4450 to 4650 inclusive, where bore is larger than 1 inch. Type 4 cast iron riveted hub is used. Pulley dimension B is 1¾ inches and C is 1½ inches. On bores 1⅜ to 1½ inches, inclusive, C dimension is 1⅞ inches.

Keyways for A and B Pulleys

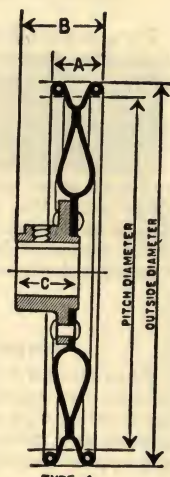
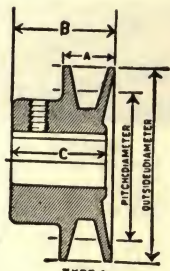
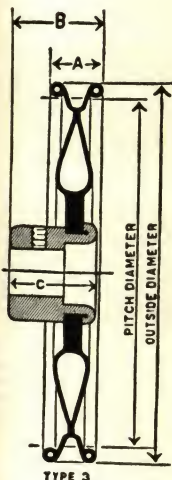
Bore, In.
 5/8 to 7/8
 15/16 to 1 1/4
 1 5/16 to 1 7/16

Keyways, In.
 3/16 x 3/32
 1/4 x 1/8
 5/8 x 1/16

Keyways in all pulleys with bores 5/8" and larger. No keyways in 1/2-inch bores.

Set-Screws

One 5/16-inch, 18-thread, slotted head, cup point set-screw over keyway.



Single O and A Groove V-Pulleys

No.	Each	O.D. In.	PITCH DIAM., IN.— BELT		Type	Bore Size In. (1/16 In. Increments)	Stock Bores Available, Inches	DIMEN., IN. ± 1/64 INCH			Approx. Ship. Wt. Lb.
			O	A				A	B	C	
2150	\$1.80	1.5	1.1	1.3	1	1/2 to 5/8	1/2, 5/8, 3/4	5/8	1 1/4	1 1/4	.2
2175	.95	1.75	1.2	1.5	1	1/2 to 5/8	1/2, 5/8, 3/4	1 1/4	1 1/4	1 1/4	.4
2200	1.00	2.0	1.4	1.7	1	1/2 to 5/8	1/2, 5/8, 3/4	1 1/4	1 1/4	1 1/4	.5
2210	1.00	2.1	1.5	1.8	1	1/2 to 5/8	1/2, 5/8, 3/4	1 1/4	1 1/4	1 1/4	.5
2225	1.00	2.25	1.7	2.0	1	1/2 to 5/8	1/2, 5/8, 3/4	1 1/4	1 1/4	1 1/4	.6
2240	1.10	2.4	1.8	2.1	1	1/2 to 5/8	1/2, 5/8, 3/4	1 1/4	1 1/4	1 1/4	.7
2250	1.15	2.5	1.9	2.2	1	1/2 to 5/8	1/2, 5/8, 3/4	1 1/4	1 1/4	1 1/4	.7
2260	1.15	2.6	2.0	2.3	1	1/2 to 5/8	1/2, 5/8, 3/4	1 1/4	1 1/4	1 1/4	.8
2275	1.15	2.75	2.2	2.5	1	1/2 to 5/8	1/2, 5/8, 3/4	1 1/4	1 1/4	1 1/4	.8
2300	1.35	3.0	2.4	2.7	1	1/2 to 1	1/2, 5/8, 3/4, 1	1 1/4	1 1/4	1 1/4	.8
2325	1.40	3.25	2.7	3.0	3	1/2 to 1	1/2, 5/8, 3/4, 1	1 1/4	1 1/4	1 1/4	.9
2350	1.55	3.5	2.9	3.2	3	1/2 to 1	1/2, 5/8, 3/4, 1	1 1/4	1 1/4	1 1/4	.9
2380	1.70	3.75	3.2	3.5	3	1/2 to 1	1/2, 5/8, 3/4, 1	1 1/4	1 1/4	1 1/4	1.0
2400	1.70	4.0	3.4	3.7	3	1/2 to 1	1/2, 5/8, 3/4, 1	1 1/4	1 1/4	1 1/4	1.0
2425	1.75	4.25	3.7	4.0	3	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4	1 1/4	1 1/4	1 1/4	1.1
2450	1.80	4.5	3.9	4.2	3	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4	1 1/4	1 1/4	1 1/4	1.1
2475	1.95	4.75	4.2	4.5	3	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4	1 1/4	1 1/4	1 1/4	1.2
2500	2.10	5.0	4.4	4.7	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4	1 1/4	1 1/4	1 1/4	1.3
2525	2.20	5.25	4.7	5.0	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4	1 1/4	1 1/4	1 1/4	1.3
2550	2.25	5.5	4.9	5.2	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4	1 1/4	1 1/4	1 1/4	1.4
2575	2.35	5.75	5.2	5.5	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4	1 1/4	1 1/4	1 1/4	1.4
2600	2.45	6.0	5.4	5.7	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4	1 1/4	1 1/4	1 1/4	1.5
2650	2.45	6.5	5.9	6.2	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4	1 1/4	1 1/4	1 1/4	1.5
2700	3.00	7.0	6.4	6.7	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4	1 1/4	1 1/4	1 1/4	1.5
2800	3.40	8.0	7.4	7.7	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4	1 1/4	1 1/4	1 1/4	1.8
2900	3.75	9.0	8.4	8.7	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4, 1 3/8, 1 1/2	1 1/4	1 1/4	1 1/4	2.3
3100	4.15	10.0	9.4	9.7	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4, 1 3/8, 1 1/2	1 1/4	1 1/4	1 1/4	2.6
3110	4.80	11.0	10.4	10.7	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4, 1 3/8, 1 1/2	1 1/4	1 1/4	1 1/4	3.0
3120	5.50	12.0	11.4	11.7	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4, 1 3/8, 1 1/2	1 1/4	1 1/4	1 1/4	3.3
3155	8.55	15.5	14.9	15.2	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4, 1 3/8, 1 1/2	1 1/4	1 1/4	1 1/4	4.3

Single A and B Groove V-Pulleys

No.	Each	O.D. In.	PITCH DIAM., IN.— BELT		Type	Bore Size In. (1/16 In. Increments)	Stock Bores Available, Inches	DIMEN., IN. ± 1/64 INCH			Approx. Ship. Wt. Lb.
			A	B				A	B	C	
4200	\$1.35	2.0	1.7	2.0	1	1/2 to 3/4	1/2, 5/8, 3/4	5/8	1 1/8	1 1/8	.4
4225	1.35	2.25	1.8	2.1	1	1/2 to 3/4	1/2, 5/8, 3/4	1 1/8	1 1/8	1 1/8	.6
4250	1.50	2.5	2.0	2.3	1	1/2 to 3/4	1/2, 5/8, 3/4	1 1/8	1 1/8	1 1/8	.8
4260	1.55	2.6	2.1	2.4	1	1/2 to 3/4	1/2, 5/8, 3/4	1 1/8	1 1/8	1 1/8	.9
4300	1.70	3.0	2.2	2.6	1	1/2 to 1	1/2, 5/8, 3/4, 1	1 1/8	1 1/8	1 1/8	1.3
4325	1.80	3.25	2.5	2.9	3	1/2 to 1	1/2, 5/8, 3/4, 1	1 1/8	1 1/8	1 1/8	1.1
4350	1.95	3.5	2.7	3.1	3	1/2 to 1	1/2, 5/8, 3/4, 1	1 1/8	1 1/8	1 1/8	1.2
4380	1.95	3.75	3.0	3.4	3	1/2 to 1	1/2, 5/8, 3/4, 1	1 1/8	1 1/8	1 1/8	1.2
4400	2.00	4.0	3.2	3.6	3	1/2 to 1	1/2, 5/8, 3/4, 1	1 1/8	1 1/8	1 1/8	1.3
4425	2.10	4.25	3.5	3.9	3	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4	1 1/8	1 1/8	1 1/8	1.3
4450	2.15	4.5	3.7	4.1	3	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4	1 1/8	1 1/8	1 1/8	1.3
4475	2.30	4.75	4.0	4.4	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4	1 1/8	1 1/8	1 1/8	1.3
4500	2.30	5.0	4.2	4.6	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4	1 1/8	1 1/8	1 1/8	1.3
4525	2.30	5.25	4.5	4.9	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4	1 1/8	1 1/8	1 1/8	1.4
4550	2.30	5.5	4.7	5.1	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4	1 1/8	1 1/8	1 1/8	1.4
4575	2.40	5.75	5.0	5.4	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4	1 1/8	1 1/8	1 1/8	1.5
4600	2.40	6.0	5.2	5.6	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4	1 1/8	1 1/8	1 1/8	1.6
4650	2.80	6.5	5.7	6.1	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4	1 1/8	1 1/8	1 1/8	1.8
4700	3.20	7.0	6.2	6.6	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4	1 1/8	1 1/8	1 1/8	2.2
4800	3.65	8.0	7.2	7.6	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4	1 1/8	1 1/8	1 1/8	2.4
4900	4.00	9.0	8.2	8.6	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4, 1 1/2, 1 3/4	1 1/8	1 1/8	1 1/8	3.0
5100	4.45	10.0	9.2	9.6	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4, 1 1/2, 1 3/4	1 1/8	1 1/8	1 1/8	3.5
5110	5.05	11.0	10.2	10.6	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4, 1 1/2, 1 3/4	1 1/8	1 1/8	1 1/8	3.8
5120	5.75	12.0	11.2	11.6	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4, 1 1/2, 1 3/4	1 1/8	1 1/8	1 1/8	4.0
5130	6.70	13.0	12.2	12.6	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4, 1 1/2, 1 3/4	1 1/8	1 1/8	1 1/8	5.0
5140	7.45	14.0	13.2	13.6	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4, 1 1/2, 1 3/4	1 1/8	1 1/8	1 1/8	5.8
5150	8.30	15.0	14.2	14.6	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4, 1 1/2, 1 3/4	1 1/8	1 1/8	1 1/8	6.3
5160	8.70	16.0	15.2	15.6	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4, 1 1/2, 1 3/4	1 1/8	1 1/8	1 1/8	7.5
5180	9.90	18.0	17.2	17.6	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4, 1 1/2, 1 3/4	1 1/8	1 1/8	1 1/8	8.8
5190	10.30	19.0	18.2	18.6	4	1/2 to 1 1/4	1/2, 5/8, 3/4, 1, 1 1/4, 1 1/2, 1 3/4	1 1/8	1 1/8	1 1/8	10.0

Explanatory Notes on Leschen Wire Rope

Proper Working Loads

For general purposes, it is never advisable for the working load of a wire rope to exceed one-fifth of its breaking strength. This means that the factor of safety should not be less than five.

To determine proper working load, divide the breaking strength by the proper factor of safety.

Factors of safety in excess of five, varying up to eight and even more, are often required for safe and economical operation. The proper factor of safety for a wire rope should be determined by careful and thorough consideration of all pertinent data, and when any doubt arises the wire rope manufacturer should be consulted.

Proper Sizes of Sheaves and Drums

Sheaves and drums should be carefully examined for proper size, free running and proper groove diameters for most economical wire rope service. It is advisable to design the sheave and drum equipment so that the tread diameters are approximately as follows:

Average Diameters Recommended

For 6x37 Round Strand Rope.....	27 times rope diameter
For 8x19 Round Strand Rope.....	31 times rope diameter
For Style B Flattened Strand.....	45 times rope diameter
For Style G Flattened Strand.....	
For 6x19 Round Strand.....	51 times rope diameter
For 18x7 Round Strand.....	
For 6x7 Round Strand.....	72 times rope diameter

It is also true that for certain classes of service, ratios smaller than specified above are possible and economical, but it is advisable never to allow the sheave and drum diameters to be set below the following:

Minimum Diameters

For 6x37 Round Strand Rope.....	18 times rope diameter
For 8x19 Round Strand Rope.....	21 times rope diameter
For Style B Flattened Strand.....	30 times rope diameter
For Style G Flattened Strand.....	
For 6x19 Round Strand.....	34 times rope diameter
For 18x7 Round Strand.....	
For 6x7 Round Strand.....	42 times rope diameter

It should be thoroughly appreciated that diameters larger than those listed as minimum will give increased rope life and, consequently, more economical service. Should there be a question as to their size or the material composing sheaves and drums for a particular installation, consult the manufacturer.

Leschen Preformed Wire Rope

For many conditions it is advisable to preform wires and strands in a wire rope. Some of the chief characteristics of a preformed wire rope are: It will not unravel or fly apart if ends are not seized; it is not easily kinked; as broken wires lie practically flat, they are not so apt to injure hands of the men handling it. It is somewhat more flexible, and this, combined with its inert qualities, makes for smoother spooling and easier handling. Preforming process minimizes tendency of Lang's Lay wire rope to loop or squirm; as wires and strands are preformed or shaped to normal form they will occupy in rope, there is less turning and twisting of rope in grooves, and less internal movement of wires and strands, all of which tends to reduce both external and internal wear.

Preforming is a process that can be applied to both round strand and flattened strand constructions.

Prices quoted upon application.

Cordage

We can supply, promptly, your requirements on wire and manila rope; also other kinds of rope and twines.

Leschen "Hercules" Red Strand Wire Rope

(REG. U. S. PAT. OFF.)

Flattened Strand Construction Preformed or Non-Preformed
Style B, Fiber Core—Style G, Fiber Core, Extra Flexible



Style B



Diam. In.	Per Foot	Style G		Usual Working Load in Tons of 2000 Lb.	Diam. of Drum or Sheave Advised Feet
		Breaking Strength in Tons of 2000 Lb.	Approx. Weight Pounds per Foot		
3/8	11.8	.45	See Explanatory Note	See Explanatory Note
1/2	14.9	.57		
5/16	18.3	.70		
3/4	26.2	1.01		
7/8	35.4	1.39		
1	46.0	1.80		
1 1/8	57.9	2.28		
1 1/4	71.0	2.81		
1 3/8	85.5	3.40		
1 1/2	101.0	4.05		
1 5/8	118.0	4.75		
1 3/4	136.0	5.51		
2	176.0	7.20		
2 1/4	220.0	9.10		
2 1/2	269.0	11.20		
2 3/4	321.0	13.60		

For ropes with either a wire rope core or a wire strand core add 7 1/2% to breaking strengths and 10% to weights.

Leschen "Hercules" Red Strand Wire Rope

(REG. U. S. PAT. OFF.)

Round Strand Construction Preformed or Non-Preformed
6 Strands—19 Wires to the Strand—1 Fiber Core



This rope is the standard hoisting construction used on cableways, cranes, derricks, logging machines, etc. The correct combination of toughness, flexibility, elasticity, and strength makes this rope wear resisting at every point.

Diam. In.	Per Foot	Style G		Usual Working Load in Tons of 2000 Lbs.	Diam. of Drum or Sheave Advised Ft
		Breaking Strength in Tons of 2000 Lbs.	Approx. Weight Pounds per Foot		
1/4	2.74	.10	See Explanatory Note	See Explanatory Note
5/16	4.26	.16		
3/8	6.10	.23		
7/16	8.27	.31		
1/2	10.70	.40		
9/16	13.50	.51		
5/8	16.70	.63		
3/4	23.80	.90		
7/8	32.20	1.23		
1	41.80	1.60		
1 1/8	52.60	2.03		
1 1/4	64.60	2.50		
1 3/8	77.70	3.03		
1 1/2	92.00	3.60		
1 5/8	107.00	4.23		
1 3/4	124.00	4.90		
1 7/8	141.00	5.63		
2	160.00	6.40		
2 1/8	179.00	7.23		
2 1/4	200.00	8.10		
2 1/2	244.00	10.00		
2 3/4	292.00	12.10		

For ropes with either a wire rope core or a wire strand core add 7 1/2% to breaking strengths and 10% to weights.

Leschen Wire Rope

Plow Steel Hoisting Rope—Preformed or Non-Preformed
6 Strands—19 Wires to the Strand—1 Fiber Core



For use where heavy work is performed under conditions where sufficiently large drums and sheaves are practicable. The tensile strength developed in plow steel wire rope is high.

Diam. In.	Per Foot	Breaking Strength in Tons of 2000 Lbs.	Approx. Weight Pounds per Foot	Usual Working Load in Tons of 2000 Lbs.	Diam. of Drum or Sheave Advised Feet
1/4	2.39	.10		
5/16	3.71	.16		
3/8	5.31	.23		
7/16	7.19	.31		
1/2	9.35	.40		
9/16	11.80	.51		
5/8	14.50	.63		
3/4	20.70	.90		
7/8	28.00	1.23		
1	36.40	1.60		
1 1/8	45.70	2.03		
1 1/4	56.20	2.50		
1 3/8	67.50	3.03		
1 1/2	80.00	3.60		
1 5/8	93.40	4.23		
1 3/4	108.00	4.90		
1 7/8	123.00	5.63		
2	139.00	6.40		
2 1/8	156.00	7.23		
2 1/4	174.00	8.10		
2 1/2	212.00	10.00		
2 3/4	254.00	12.10		

See Explanatory Note

See Explanatory Note

For ropes with either a wire rope core or a wire strand core add 7 1/2% to breaking strengths and 10% to weights.

Leschen "Hercules" Red Strand Wire Rope

(REG. U.S. PAT. OFF.)

Round Strand Construction
Preformed or Non-Preformed

6 Strands—37 Wires to the Strand—1 Fiber Core



For cranes, and for use on certain types of derricks, log-loaders, mining machines, and shovels. This is a wire rope that offers unusual flexibility with great durability.

Diam. In.	Per Foot	Breaking Strength in Tons of 2000 Lb.	Approx. Weight Pounds per Foot	Usual Working Load in Tons of 2000 Lb.	Diam. of Drum or Sheave Advised Feet
1/4	2.59	.10		
5/16	4.03	.16		
3/8	5.77	.22		
7/16	7.82	.30		
1/2	10.20	.39		
9/16	12.90	.49		
5/8	15.80	.61		
3/4	22.60	.87		
7/8	30.60	1.19		
1	39.80	1.55		
1 1/8	50.10	1.96		
1 1/4	61.50	2.42		
1 3/8	74.10	2.93		
1 1/2	87.90	3.49		
1 5/8	103.00	4.09		
1 3/4	119.00	4.75		
1 7/8	136.00	5.45		
2	154.00	6.20		
2 1/8	173.00	7.00		
2 1/4	193.00	7.85		
2 1/2	236.00	9.69		
2 3/4	284.00	11.72		

See Explanatory Note

See Explanatory Note

For rope with either a wire rope core or a wire strand core, add 7 1/2 per cent to breaking strengths and 10 per cent to weights.

Leschen Plow Steel Wire Hoisting Rope

Extra Flexible—Preformed or Non-Preformed

6 Strands of 37 Wires Each—1 Hemp Core



Diameter Inches	Per Foot	Breaking Strength in Tons of 2000 Pounds	Approx. Weight Pounds per Foot
1/4	2.25	.10
5/16	3.50	.16
3/8	5.02	.22
7/16	6.80	.30
1/2	8.85	.39
9/16	11.20	.49
5/8	13.70	.61
3/4	19.60	.87
7/8	26.60	1.19
1	34.60	1.55
1 1/8	43.50	1.96
1 1/4	53.50	2.42
1 3/8	64.50	2.93
1 1/2	76.40	3.49
1 5/8	89.30	4.09
1 3/4	103.00	4.75
1 7/8	118.00	5.45
2	134.00	6.20
2 1/8	150.00	7.00
2 1/4	168.00	7.85
2 1/2	205.00	9.69
2 3/4	247.00	11.72

For ropes made with either a wire rope center or a metallic core add 7 1/2% to breaking strengths and 10% to weights.

Leschen Sash Cord

6 Strands—7 Wires to the Strand—1 Cotton Center



Made of iron.

Diameter Inches	STRENGTH, POUNDS		Approximate Weight Pounds per Foot
	Bright	Galvanized	
1/16	140	126	.006
3/32	315	283	.018
1/8	560	504	.023
5/32	840	756	.038
3/16	1,150	1,035	.053
7/32	1,570	1,413	.072
1/4	2,040	1,836	.094

Leschen Galvanized Wire Strand



This strand is composed of seven steel wires twisted into a single strand. For smoke-stack guys, electric light plants, street railways, signal cord, fencing and other purposes. For guying of every sort within certain limits the cheapest and most effective support is galvanized strand. This strand is properly galvanized for proof against rust and corrosion, and is used in large quantities by electric light, telephone and street railway companies and others.

Diameter	3/16	1/4	5/16	3/8	7/16	1/2
Ordinarily made in sizes from 3/16 to 1/2-inch.						
Breaking Strength:						
Common.....lb.	1150	1900	3200	4250	5700	7400
Siemens-Martin.....lb.	1900	3150	5350	6950	9350	12100
Approx. Wt., per						
1000 Feet.....lb.	72.9	121	205	273	399	517

Leschen "Hercules" Red Strand Wire Rope

(REG. U.S. PAT. OFF.)

Extra Flexible Round Strand Construction

Preformed or Non-Preformed

8 Strands—19 Wires to the Strand—1 Hemp Core



Especially recommended for use as swinging lines on steam shovels, and for hoisting lines on some of the small type shovels.

Diam-eter Inches	Per Foot	Breaking Strength in Tons of 2000 Pounds	Approx. Weight Pounds per Foot	Usual Working Load in Tons of 2000 Lb.	Diam. of Drum or Sheave Advised Feet
1/2	9.23	.36		
5/8	11.60	.46		
3/4	14.30	.57		
7/8	20.50	.82		
1	27.70	1.11		
1 1/8	36.00	1.45		
1 1/4	45.30	1.84		
1 3/8	55.70	2.27		
1 1/2	67.10	2.74		
1 3/4	79.40	3.26		

See Explanatory
Note

See Explanatory
Note

Leschen Wire Rope

Iron and Plow Steel Tiller Rope

6 Strands—42 Wires to the Strand—7 Fiber Cores



A flexible rope made of a large number of small, fine wires.

Used principally as hand ropes on elevators, as steering ropes on yachts and steamboats and for limited other purposes where extreme flexibility is necessary.

Diam. Inches	Iron per Foot	Plow Steel per Foot	STRENGTH IN TONS —OF 2000 POUNDS—		Approx. Weight Pounds per Foot
			Iron	Plow Steel	
1/4584	1.31	.07
5/16908	2.05	.11
3/8	1.300	2.93	.16
7/16	1.770	3.98	.21
1/2	2.300	5.18	.28
5/8	2.900	6.53	.35
3/4	3.570	8.04	.43

Genuine Crosby Wire Rope Clips

Drop Forged Steel

The dependable wire rope fastener with the positive vise-tight grip. Base has high tapering wings to hold one rope squarely on the other, insuring uniform grip. Grooved rope channel in base assures snug lay of rope.

Entire clip hot dip galvanized for protection against rust and corrosion.



Diam. Rope In.	Each	Diam. Rope In.	Each	Diam. Rope In.	Each
1/8	\$.30	5/8	\$.60	1 5/8	\$3.80
3/16	.35	3/4	.85	1 3/4	5.85
1/4	.40	7/8	1.20	2	7.90
5/16	.40	1	1.25	2 1/4	12.00
3/8	.45	1 1/8	1.45	2 1/2	13.00
7/16	.50	1 1/4	2.05	2 3/4	20.00
1/2	.50	1 3/8	2.70	3	28.00
5/8	.60	1 1/2	2.75	...	....

Morse-Starrett Cable Cutters

Hammer Type



Designed to cut cable with the minimum of effort and danger. Patented blade and die prevents flattening of the cable and displacing the lay of the strands.

The cutting edge of the blade in the hammer type is self-forming and self-hardening under use.

No. 1 is a light kit model.

No. 1-A, heavy duty portable.

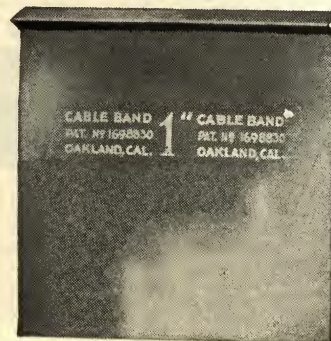
No. 2, extra heavy duty portable.

Number	1	1-A	2
Each	\$12.00	21.00	35.00
Maximum Cable Capacity	1	1 1/16	1 1/2
Height	6 5/8	7	9
Diameter at Base	3 1/2	6	7 3/4
Shipping Weight	9	20	38

Parts

Description	No. 1 Each Weight	No. 1A Each Weight	No. 2 Each Weight
Bases	\$5.00 5 Lb.	\$11.00 15 Lb.	\$19.00 30 Lb.
Plungers	3.50 3 Lb.	4.00 4 Lb.	7.00 7 Lb.
Dies	3.00 4 Oz.	5.50 7 Oz.	7.50 10 Oz.
Blades	2.00 2 Oz.	2.00 2 Oz.	3.25 5 Oz.
Blade Pins	.10 1 Oz.	.10 1 Oz.	.15 1 Oz.
Plunger Guide Pins	.10 1 Oz.	.10 1 Oz.	.10 1 Oz.

Morse-Starrett Cable Bands



A perfect serving for cable to confine loose strands at end.

This cable band is a sheet of pliable but very tough steel indented with a groove and lock seam at one edge, galvanized. Made in lengths and sizes to fit cable up to 1 1/2-inch diameter.

Applied in 20 seconds with a pair of ordinary pliers.

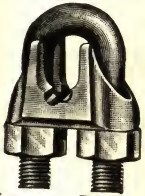
Packed in boxes of 50 of each size.

Each size of rope requires a band of corresponding size.



Band Size	3/16 to 7/16	1/2 to 1 1/16	3/4 to 1	1 1/8 to 1 1/2
Per 100	\$2.00	3.00	4.50	7.50
Per 1000	\$15.00	25.00	40.00	70.00

Chicago Wire Rope Clips



High grade, tough steel bolt with malleable iron base, each size having adequate margin of strength over corresponding size of wire rope.

Black japanned finish.

Size In.	Per 100	No. in Std. Pkg.	Wt., Lb. per 100	Size In.	Per 100	No. in Std. Pkg.	Wt., Lb. per 100
1/8	\$6.50	400	7	3/4	\$27.00	200	90
3/16	6.50	400	7	7/8	38.50	125	140
1/4	8.50	200	14	1	46.50	100	165
5/16	9.30	200	15	1 1/8	75.00	50	270
3/8	12.80	200	25	1 1/4	90.00	50	360
7/16	14.30	100	29	1 3/8	155.00	25	495
1/2	14.50	200	37	1 1/2	165.00	20	530
9/16	19.00	100	56	1 3/4	310.00	20	1100
5/8	19.00	200	60	2	415.00	20	1460

No. 429 Laughlin Safety Wire Rope Clips

A new design, patented clip of drop-forged steel, hot galvanized. Simple and easy to install. Holds by friction.

No deformity or crimping to weaken the rope.



Diam. Rope In.	Each	Est. Wt., Lb. per 100 Clips
3/16	\$.40	21
1/4	.40	21
5/16	.40	25.5
3/8	.45	37.5
7/16	.50	48
1/2	.50	60
9/16	.60	108
5/8	.60	108
3/4	.85	134
7/8	1.20	220
1	1.25	268
1 1/8	1.45	296
1 1/4	2.05	403
1 3/8	2.70	658
1 1/2	2.75	658

Safe Line Wire Rope Clamps

Listed by Underwriters' Laboratories



Closed

For use on high tensile strength wire rope.

Holds any wire rope without slipping. Will not catch on clothing or mechanical apparatus. When thimbles are used they will not loosen and fall out.

Made in two halves. Inside of each half made to fit rope; large grooves pocket large spiral strands; small grooves pocket each small wire that makes up strands; large grooves hold rope from end wise slippage and small grooves prevent rope from spiral winding out of clamp. Every strand, every surface wire, contacts full length inner surface of clamp. Two halves are gripped tightly on rope with strong alloy steel nuts. Holding contact is firm and complete full length and circumference of clamp.

Diam. of Wire Rope Inches	Plain Forge Finish Each	Cad-mium Plated Each	DIMENSIONS, INCHES			Approximate Weight Pounds
			Overall Length	Flat	Point to Point of Hex. Size	
1/16	\$.90	\$1.05	1 5/32	1 1/2	37/64	1/16
3/32	.93	1.08	1 5/32	1 1/2	37/64	1/16
1/8	.95	1.10	1 3/4	5/8	23/32	1/8
5/32	1.05	1.20	1 3/4	5/8	23/32	1/8
3/16	1.10	1.30	2 1/4	1 3/16	15/16	5/16
7/32	1.20	1.40	2 1/4	1 3/16	15/16	5/16
1/4	1.30	1.55	2 1/2	1 1/4	1 1/8	7/8
5/16	1.60	1.90	2 3/4	1 1/4	1 1/8	1 1/8
3/8	2.10	2.45	3 1/4	1 3/8	1 1/8	1 3/8
7/16	2.60	3.00	3 5/8	1 5/8	1 3/8	1 3/8
1/2	3.30	3.75	4	1 7/8	1 3/8	1 3/8
5/8	4.15	4.65	4 5/8	2 1/4	2 1/4	2 1/4
3/4	4.95	5.50	5 3/4	2 5/8	3 1/2	3 1/2

Laughlin Open Wire Rope Sockets

Drop Forged Steel



Order by size of rope diameter in inches.

Diam. Rope Inches	No. G-416 Galv. Each	No. S-416 Self-Colored Each	Length Basket Inches	Overall Length Inches	Width Between Jaws, In.	Diam. Pin In.	Approx. Weight Pounds
1/4	\$2.35	\$2.25	2	4 3/16	1 1/16	1 1/16	.9
5/16	2.70	2.50	2	4 5/8	1 3/16	1 3/16	1.3
3/8	2.70	2.50	2	4 5/8	1 3/16	1 3/16	1.3
7/16	3.40	3.10	2 1/2	5 9/16	1	1	2.3
1/2	3.40	3.10	2 1/2	5 9/16	1	1	2.3
9/16	4.90	4.30	3	6 3/4	1 1/4	1 3/16	3.9
5/8	4.90	4.30	3	6 3/4	1 1/4	1 3/16	3.9
3/4	6.25	5.40	3 1/2	7 15/16	1 1/2	1 3/8	6.0
7/8	8.85	7.60	4	9 1/4	1 3/4	1 5/8	10.0
1	12.00	10.10	4 1/2	10 9/16	2	2	15.5
1 1/8	16.70	13.80	5	11 13/16	2 1/4	2 1/4	24.0
1 1/4	25.00	20.50	5 1/2	13 3/16	2 1/2	2 1/2	32.0
1 3/8	25.00	20.50	5 1/2	13 3/16	2 1/2	2 1/2	32.0
1 1/2	48.80	43.20	6	15 1/8	3	2 3/4	46.0
1 5/8	62.60	56.00	6 1/2	16 1/4	3	3	55.0
1 3/4	99.50	89.60	7 1/2	18 1/4	3 1/2	3 1/2	85.0
1 7/8	99.50	89.60	7 1/2	18 1/4	3 1/2	3 1/2	85.0
2	155.80	140.80	8 1/2	21 1/2	4	3 3/4	125.0
2 1/8	155.80	140.80	8 1/2	21 1/2	4	3 3/4	125.0
2 1/4	193.60	174.40	9	23 1/2	4 1/2	4 1/4	165.0
2 3/8	193.60	174.40	9	23 1/2	4 1/2	4 1/4	165.0

Laughlin Closed Wire Rope Sockets



Order by size of rope diameter in inches.

Diam. Rope In.	No. G-417 Galv. Each	No. S-417 Self-Colored Each	Length Basket Inches	Overall Length Inches	Max. Diam. Basket Inches	Width of Eye Inches	Weight Pounds
1/4	\$1.70	\$1.60	2	4 1/4	1 5/16	1 3/16	.8
5/16	1.80	1.65	2	4 5/8	1 9/16	1 5/16	1.0
3/8	1.80	1.65	2	4 5/8	1 9/16	1 5/16	1.0
7/16	2.15	1.95	2 1/2	5 1/2	1 15/16	1 1/8	1.8
1/2	2.15	1.95	2 1/2	5 1/2	1 15/16	1 1/8	1.8
9/16	3.30	2.80	3	6 3/8	2 3/8	1 3/8	3.4
5/8	3.30	2.80	3	6 3/8	2 3/8	1 3/8	3.4
3/4	4.40	3.75	3 1/2	7 5/8	2 3/4	1 5/8	5.1
7/8	6.60	5.60	4	8 7/8	3 1/4	1 7/8	7.8
1	9.30	7.70	4 1/2	10	3 3/4	2 1/4	12.0
1 1/8	13.25	11.25	5	11 1/8	4 1/8	2 1/2	16.0
1 1/4	17.50	14.60	5 1/2	12 9/16	4 3/4	2 3/4	23.0
1 3/8	17.50	14.60	5 1/2	12 9/16	4 3/4	2 3/4	23.0
1 1/2	33.00	29.20	6	14 1/8	5 1/4	3 1/8	28.0
1 5/8	44.00	39.60	6 1/2	15 5/8	5 1/2	3 1/4	36.0
1 3/4	67.75	60.80	7 1/2	17 1/2	6 3/8	3 1/2	58.0
1 7/8	67.75	60.80	7 1/2	17 1/2	6 3/8	3 1/2	58.0
2	104.00	94.40	8 1/2	19 3/4	7 3/8	3 5/8	80.0
2 1/8	104.00	94.40	8 1/2	19 3/4	7 3/8	3 5/8	80.0
2 1/4	126.40	113.60	9	21 5/8	8 1/4	4 1/2	105.0
2 3/8	126.40	113.60	9	21 5/8	8 1/4	4 1/2	105.0

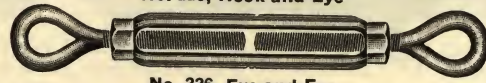
Laughlin Weldless Turnbuckles Drop Forged Steel



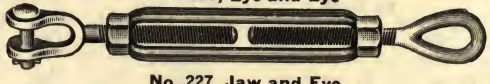
No. 223, Hook and Hook



No. 225, Hook and Eye



No. 226, Eye and Eye



No. 227, Jaw and Eye



No. 228, Jaw and Jaw

Diameter and Takeup Inches	Hook & Hook		Eye & Eye		Jaw & Eye		Jaw & Jaw	
	Galv. Each	S.C. Each	Galv. Each	S.C. Each	Galv. Each	S.C. Each	Galv. Each	S.C. Each
1/4 x 4	\$.86	....	\$ .86	....	\$1.10	....	\$1.30	....
5/16 x 4 1/2	1.00	....	1.00	....	1.30	....	1.50	....
3/8 x 6	1.30	....	1.30	....	1.70	....	1.90	....
1/2 x 6	1.90	....	1.90	....	2.20	....	2.60	....
9	2.70	....	2.70	....	3.20	....	3.50	....
12	3.30	....	3.30	....	3.80	....	4.30	....
5/8 x 6	2.30	\$1.96	2.30	\$1.96	2.74	....	3.10	....
9	3.20	2.60	3.20	2.60	3.80	....	4.40	....
12	3.80	3.10	3.80	3.10	4.30	....	4.90	....
3/4 x 6	3.30	2.80	3.30	2.80	4.10	....	4.60	....
9	4.20	3.40	4.20	3.40	4.90	....	5.40	....
12	4.90	4.00	4.90	4.00	5.60	....	6.30	....
18	6.50	5.50	6.50	5.50	7.50	....	8.50	....
7/8 x 12	6.50	5.50	6.50	5.50	7.20	....	8.70	....
18	7.50	6.20	7.50	6.20	8.70	....	10.00	....
1 x 6	6.50	5.50	6.50	5.50	7.50	....	8.50	....
12	7.30	6.00	7.30	6.00	8.30	....	9.50	....
18	9.50	7.80	9.50	7.80	11.30	....	12.50	....
24	11.60	9.50	11.60	9.50	13.90	....	15.10	....
1 1/4 x 12	12.50	10.40	12.50	10.40	15.60	....	19.00	....
18	15.50	13.00	15.50	13.00	19.00	....	22.50	....
24	20.00	16.50	20.00	16.50	22.50	....	26.00	....
1 1/2 x 12	19.00	15.50	19.00	15.50	22.50	....	26.00	....
18	23.30	19.00	23.30	19.00	27.20	....	31.00	....
24	29.40	24.20	29.40	24.20	34.50	....	39.80	....
1 3/4 x 18	....	....	38.40	31.40	49.00	....	57.60	....
24	....	....	49.00	40.20	59.30	....	68.00	....
2 x 24	....	....	73.00	61.00	87.25	....	101.00	....
2 1/2 x 24	....	....	140.00	113.50	174.00	....	209.00	....
2 3/4 x 24	....	....	218.00	174.00	260.00	....	310.00	....

Estimated Weight, Pounds Per 100

Diameter and Takeup Inches	With Eyes or Hooks		Jaw & Eye		Jaw & Jaw	
	With Eyes or Hooks	Jaw & Eye	With Eyes or Hooks	Jaw & Eye	With Eyes or Hooks	Jaw & Jaw
1/4 x 4	31	33	35	35	900	940
5/16 x 4 1/2	50	53	58	58	1122	1206
3/8 x 6	94	101	108	108	1400	1484
1/2 x 6	162	174	186	186	1676	1760
9	204	216	228	228	2031	2183
12	246	264	282	282	2506	2650
5/8 x 6	275	295	316	316	24	2982
9	306	326	347	347	12	2850
12	337	357	378	378	18	4018
3/4 x 6	390	417	448	448	24	4656
9	512	541	570	570	13 1/4 x 18	4900
12	575	604	633	633	24	5726
18	700	730	760	760	2 x 24	9475
7/8 x 12	875	940	1006	1006	2 1/2 x 24	13975
18	1077	1142	1208	1208	2 3/4 x 24	19400

*Indicates the standard marine lengths.

Turnbuckle fittings are hot galvanized after threading. Pin and cotters are fitted to jaw end fittings; Nos. 227 and 228, sizes 3/4-inch and larger.

For one locknut add 5 per cent; for two, add 10 per cent.

Turnbuckles with hooks larger than 1 1/2-inch, not furnished.

Laughlin Turnbuckles Drop Forged Steel—Weldless



No. S-251 With Stubs

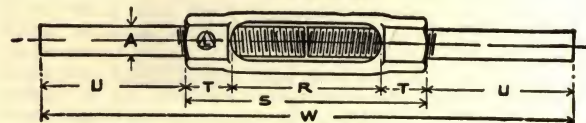


No. S-2510 Without Stubs

Diam. Thread Inches	Take-up Inches	No. S-251 With Stubs Each		No. S-2510 Without Stubs Each		EST. WT. LB. PER 100	
		With Stubs	Without Stubs	With Stubs	Without Stubs	With Stubs	Without Stubs
1/4	4	\$.78	\$.52	29	17	29	17
5/16	4 1/2	.82	.56	45	25	45	25
3/8	6	1.00	.64	82	45	82	45
1/2	6	1.10	.72	152	75	152	75
1/2	9	1.76	1.20	191	95	191	95
1/2	12	2.30	1.54	254	138	254	138
5/8	6	1.30	.86	237	105	237	105
5/8	9	2.14	1.40	299	145	299	145
5/8	12	2.50	1.66	414	238	414	238
3/4	6	1.84	1.22	362	160	362	160
3/4	9	2.70	1.80	447	213	447	213
3/4	12	3.10	2.10	540	280	540	280
3/4	18	4.50	3.00	702	372	702	372
7/8	6	2.20	1.44	530	220	530	220
7/8	12	3.80	2.50	747	365	747	365
7/8	18	5.40	3.60	964	496	964	496
1	6	2.70	1.80	662	275	662	275
1	12	4.60	3.10	989	469	989	469
1	18	6.60	4.40	1262	626	1262	626
1 1/8	6	9.20	6.10	1529	783	1529	783
1 1/4	6	3.50	2.30	762	287	762	287
1 1/4	12	4.30	2.90	1149	500	1149	500
1 1/4	18	7.60	5.10	1569	725	1569	725
1 1/4	24	10.10	6.80	1989	965	1989	965
1 1/4	24	14.20	9.50	2409	1205	2409	1205
1 3/8	6	5.30	3.50	1225	500	1225	500
1 1/2	6	6.90	4.60	1725	700	1725	700
1 1/2	12	10.80	7.20	2378	1084	2378	1084
1 1/2	18	14.90	9.90	2974	1420	2974	1420
1 1/2	24	20.80	13.90	3572	1756	3572	1756
1 5/8	6	8.10	5.40	1781	700	1781	700
1 3/4	6	9.50	6.40	2502	1094	2502	1094
1 3/4	18	23.50	15.70	4156	2000	4156	2000
1 3/4	24	33.00	22.00	4963	2453	4963	2453
2	6	14.90	9.90	3516	1484	3516	1484
2	24	51.50	34.35	6660	3242	6660	3242
2 1/2	6	30.70	20.50	6339	2693	6339	2693
2 1/2	24	107.00	71.50	11265	5423	11265	5423
2 3/4	24	118.00	78.50	12750	5423	12750	5423

Unless otherwise specified, self-colored turnbuckles with 6-inch opening will be supplied.

Dimensions



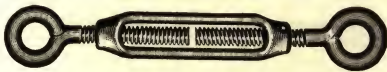
DIMENSIONS, INCHES						Average Ultimate Tensile Strength in Pounds
A	R	S	T	U	W*	
1/4	4	4 7/8	7 1/8	2 5/16	10	1560
5/16	4 1/2	5 1/2	7 1/2	2 5/8	10 3/4	2700
3/8	6	7 1/8	7 1/2	4 1/8	16	4080
1/2	6	7 1/2	7 1/2	4 1/4	16	7560
5/8	6	8 1/4	7 1/2	4 3/8	16	12120
3/4	6	8 1/4	7 1/2	4 3/8	17	18120
1	6	8 3/8	7 1/2	4 11/16	18	25140
1 1/8	6	9	7 1/2	5	19	33060
1 1/4	6	9 3/4	7 1/2	5 1/8	19 1/4	41640
1 3/8	6	9 3/4	7 1/2	5 3/8	20	53580
1 1/2	6	10 1/2	7 1/2	5 1/2	20 1/2	63420
1 3/4	6	11 1/4	7 1/2	5 3/8	20 1/2	77700
2	6	12	7 1/2	5 1/2	22	104760
2 1/2	6	13 1/2	7 1/2	6 1/4	23	138120
2 3/4	6	14 1/2	7 1/2	6 1/4	26	223140

*Dimension W is the overall length with stubs screwed in as illustrated. To determine overall length of longer takeup turnbuckles add the difference in takeup.

Midget Turnbuckles

Sizes $\frac{1}{4}$, $\frac{5}{16}$ and $\frac{3}{8}$ inch have malleable iron body. Galvanized finish. Packed one dozen in a box.

Fitted with Two Eyes



No.	1	2	3	4	5	6
Per Dozen.....	\$2.52	2.76	3.00	3.60	6.00	9.00
Diameter of Bolt...in.	$\frac{5}{32}$	$\frac{3}{16}$	$\frac{7}{32}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$
Overall Length:						
Closed.....inches	$3\frac{3}{8}$	4	$4\frac{1}{2}$	$5\frac{1}{2}$	$6\frac{3}{4}$	$7\frac{1}{2}$
Extended....inches	$4\frac{5}{8}$	$5\frac{5}{8}$	$6\frac{3}{8}$	$7\frac{5}{8}$	$9\frac{1}{4}$	$10\frac{1}{2}$

Fitted with Hook and Eye



No.	11	12	13	14	15	16
Per Dozen.....	\$2.52	2.76	3.00	3.60	6.00	9.00
Diameter of Bolt...in.	$\frac{5}{32}$	$\frac{3}{16}$	$\frac{7}{32}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$
Overall Length:						
Closed.....inches	$3\frac{3}{8}$	4	$4\frac{1}{2}$	$5\frac{1}{2}$	$6\frac{3}{4}$	$7\frac{1}{2}$
Extended....inches	$4\frac{5}{8}$	$5\frac{5}{8}$	$6\frac{3}{8}$	$7\frac{5}{8}$	$9\frac{1}{4}$	$10\frac{1}{2}$

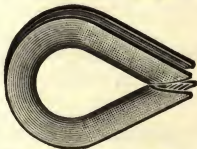
Fitted with Two Hooks



No.	21	22	23	24	25	26
Per Dozen.....	\$2.52	2.76	3.00	3.60	6.00	9.00
Diameter of Bolt...in.	$\frac{5}{32}$	$\frac{3}{16}$	$\frac{7}{32}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$
Overall Length:						
Closed.....inches	$3\frac{3}{8}$	4	$4\frac{1}{2}$	$5\frac{1}{2}$	$6\frac{3}{4}$	$7\frac{1}{2}$
Extended....inches	$4\frac{5}{8}$	$5\frac{5}{8}$	$6\frac{3}{8}$	$7\frac{5}{8}$	$9\frac{1}{4}$	$10\frac{1}{2}$

No. G-411 Laughlin Wire Rope Thimbles

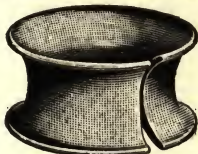
Regular Closed Pattern—Wrought Steel Galvanized



For Size Rope, In.	Per 100	Wt., Lb. per 100	For Size Rope, In.	Per 100	Wt., Lb. per 100
$\frac{1}{8}$	\$7.00	$3\frac{1}{4}$	$\frac{7}{8}$	\$52.00	90
$\frac{3}{16}$	7.00	$3\frac{1}{4}$	1	70.00	105
$\frac{1}{4}$	7.00	$3\frac{1}{4}$	$1\frac{1}{8}$	95.00	186
$\frac{5}{16}$	8.70	4	$1\frac{1}{4}$	95.00	186
$\frac{3}{8}$	10.50	$7\frac{1}{2}$	$1\frac{1}{2}$	240.00	340
$1\frac{1}{2}$	14.00	$13\frac{3}{4}$	$1\frac{3}{4}$	485.00	594
$\frac{5}{8}$	21.00	36	2	485.00	594
$\frac{3}{4}$	25.00	50	...	.....	...

No. 415 Laughlin Manila Rope Thimbles

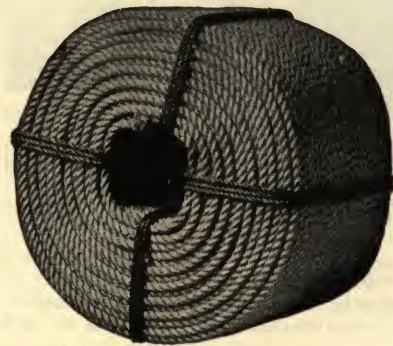
Wrought Steel—Galvanized



For Diam. Rope Inches	O.D. Edge to Edge Inches	Approx. Wt., Lb. per 100	For Diam. Rope Inches	O.D. Edge to Edge Inches	Approx. Wt., Lb. per 100
$\frac{5}{16}$	\$.11	$\frac{3}{4}$	1	\$.32	$2\frac{1}{4}$
$\frac{3}{8}$	.11	2	$1\frac{1}{8}$	.35	$2\frac{1}{2}$
$\frac{7}{16}$	.13	3	$1\frac{1}{4}$	.52	$2\frac{3}{4}$
$1\frac{1}{2}$	.14	$5\frac{5}{8}$	$1\frac{3}{8}$	.70	3
$\frac{5}{8}$	.17	9	$1\frac{1}{2}$	.87	$3\frac{1}{2}$
$\frac{3}{4}$	.20	17	$1\frac{3}{4}$	2.17	4
$\frac{7}{8}$	.26	25.5	2	3.96	5

Plymouth 3-Strand Ship Brand Manila Rope

Standard Lay



Section of Rope



Cross-Section

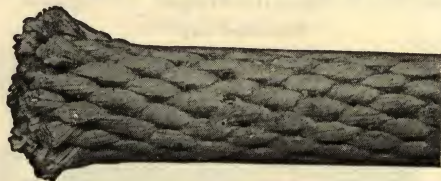
Recommended for all work not calling for goods of special construction, stock or lay. Made from manila fiber of high quality. Has ample strength and durability for all general purposes. Ordinarily used in right-laid and untarred forms, but can be furnished left-laid or tarred when desired. The lay is the regular lay—soft enough for easy handling and splicing, yet firm enough to preserve the rope's shape.

Length in fathoms and size by circumference is the customary way of measuring large rope. The smaller sizes of rope may be ordered by number of threads.

Standard-coils: 6, 9, and 12-thread rope, 25 and 50-pound coils; larger sizes, 100 fathoms (600 feet), and 200 fathoms (1200 feet).

NOMINAL SIZE			Min. Length Feet in One Lb.	MIN. BREAKING STRENGTH, LB.—Plymouth		Wt. Lb. per 100 Ft.	Approx. Ship. Wt., Lb. per Full Coil
Circum. In.	No. Threads	Diam. In.		Brand	Sisal		
$\frac{9}{16}$	6-Fine	$\frac{3}{16}$	67.900	450	360	1.47	50
$\frac{3}{4}$	6	$\frac{1}{4}$	51.000	600	480	1.96	50
1	9	$\frac{5}{16}$	35.200	1000	800	2.84	50
$1\frac{1}{8}$	12	$\frac{3}{8}$	24.900	1350	1080	4.02	50
$1\frac{1}{4}$	15	$\frac{7}{16}$	19.400	1750	1400	5.15	63
$1\frac{3}{8}$	18	$\frac{15}{32}$	16.300	2250	1800	6.13	75
$1\frac{1}{2}$	21	$\frac{1}{2}$	13.600	2650	2120	7.35	90
$1\frac{3}{4}$	..	$\frac{9}{16}$	9.800	3450	2760	10.20	125
2	..	$\frac{5}{8}$	7.650	4400	3520	13.10	160
$2\frac{1}{4}$	..	$\frac{3}{4}$	6.120	5400	4320	16.30	200
$2\frac{1}{2}$	..	$\frac{13}{16}$	5.230	6500	5200	19.10	234
$2\frac{3}{4}$	..	$\frac{7}{8}$	4.540	7700	6160	22.00	270
3	..	1	3.780	9000	7200	26.50	324
$3\frac{1}{4}$	..	$1\frac{1}{16}$	3.260	10500	8400	30.70	375
$3\frac{1}{2}$	..	$1\frac{1}{8}$	2.840	12000	9600	35.20	432
$3\frac{3}{4}$	..	$1\frac{1}{4}$	2.450	13500	10800	40.80	502
4	..	$\frac{15}{16}$	2.130	15000	12000	46.90	576
$4\frac{1}{2}$	..	$1\frac{1}{2}$	1.700	18500	14800	58.80	720
5	..	$1\frac{5}{8}$	1.370	22500	18000	73.00	893
$5\frac{1}{2}$	..	$1\frac{3}{4}$	1.140	26500	21200	87.70	1073
6	..	2	.949	31000	24800	105.00	1290
$6\frac{1}{2}$	..	$2\frac{1}{8}$	.816	36000	28800	123.00	1503
7	..	$2\frac{1}{4}$	.699	41000	32800	143.00	1752
$7\frac{1}{2}$	..	$2\frac{1}{2}$	.612	46500	37200	163.00	2004
8	..	$2\frac{5}{8}$	.534	52000	41600	187.00	2290
$8\frac{1}{2}$	..	$2\frac{7}{8}$	.474	58000	46400	211.00	2580
9	..	3	.422	64000	51200	237.00	2900
$9\frac{1}{2}$	..	$3\frac{1}{8}$	.379	71000	56800	264.00	3225
10	..	$3\frac{1}{4}$	.342	77000	61600	292.00	3590
11	..	$3\frac{1}{2}$	.278	91000	72800	360.00	4400
12	..	4	.235	105000	84000	426.00	5225

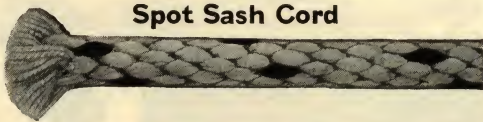
Samson Solid Braided Cotton Rope



Made of extra quality stock.
No. 14 and No. 16, put up in coils of about 1200 feet each, and larger sizes in coils of about 600 feet each.

No.	14	16	20	24
Per Pound				
Diameter	inches	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{5}{8}$
Approx. Wt. per 100 Feet	pounds	7	9	13 $\frac{1}{2}$

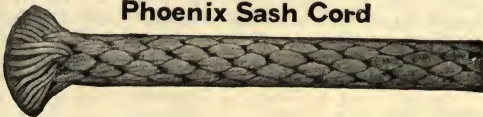
Larger sizes up to No. 32 are made to order.
Size No. indicates diameter in 32nds of an inch.



Spot Sash Cord

For hanging windows or any other purpose requiring a smooth, durable cord. Made of extra quality cotton yarn.
Put up in hanks of 100 feet each (usually two connected), 12 hanks (1200 feet) in a package. Also in coils, or on tubes or reels about 1200 feet each if desired.

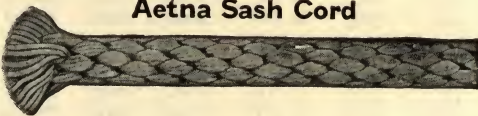
Size No.	6	7	8	9	10	12
Approx. Diam.	in.	$\frac{3}{16}$	$\frac{7}{32}$	$\frac{1}{4}$	$\frac{9}{32}$	$\frac{5}{8}$
Approx. Feet	lb.	66	55	44	36	27
Min. Diam.						
Pulley	in.	$1\frac{1}{2}$	$1\frac{3}{4}$	2	$2\frac{1}{4}$	$2\frac{1}{2}$
Suitable for Wts.	lb.	Less than 15	15-20	20-25	25-35	35-45
Approx. Wt. per Doz.	lb.	18	22	27	33	44



Phoenix Sash Cord

Solid braided cotton, even running and smooth, free from imperfections and rough lengths often found in cheaper sash cord.
Put up in hanks of 100 feet each, usually two connected, one dozen hanks, 1200 feet, in a package, or in coils, tubes or reels of any desired length.

Size No.	Approx. Diam. Inches	Approx. Feet per Pound	Min. Diam. Pulley Inches	Per Pound
6	$\frac{3}{16}$	66	$1\frac{1}{2}$	....
7	$\frac{7}{32}$	55	$1\frac{3}{4}$	....
8	$\frac{1}{4}$	44	2	....
9	$\frac{9}{32}$	36	$2\frac{1}{4}$	....
10	$\frac{5}{16}$	27	$2\frac{1}{2}$	....
12	$\frac{3}{8}$	20	3	....



Aetna Sash Cord

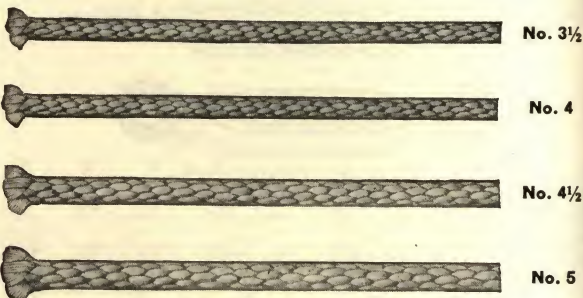
A smooth white durable yarn cord, available in sizes 6 to 12. Put up in standard 100-foot hanks or coils of about 1200 feet each.



Cotton Wrapping Twines In Balls

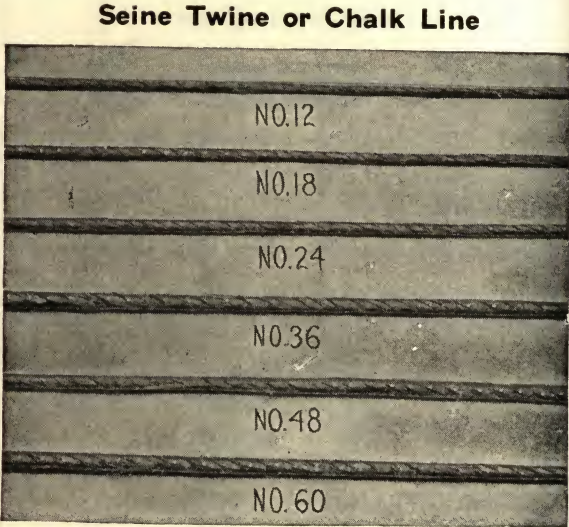
Price, Commercial 4-ply, $\frac{1}{4}$ -Pound Balls.....per pound
Price, High Grade, 3-ply, $\frac{1}{4}$ -Pound Balls.....per pound
Five pounds in a cloth sack.

Samson Small Lines Solid Braided Cotton



Made in white unbleached cotton with glazed finish.
No. 3 $\frac{1}{2}$, No. 4, No. 4 $\frac{1}{2}$ are put up in hanks of 48 feet each (several connected in one length), one dozen hanks (192 yards) in a box, or in coils of about 1000 yards each. No. 5 is put up in hanks of 100 feet each (two hanks connected), one dozen in a package, or in coils of about 1000 yards each.

No.	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	5
In Hanks	per dozen			
In Coils	per 100 yards			



Seine Twine or Chalk Line

Medium; in 12, 18, 24, 30, 36, 42, 48, 60, and 72-thread.
5-Pound Skeins.....per pound
1-Pound Balls.....per pound
8-Ounce Balls.....per pound
4-Ounce Balls.....per pound
2-Ounce Balls.....per pound

Approximate Feet per Pound and Breaking Strength

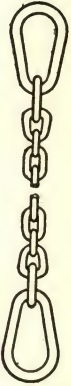
Size No.	Feet per Pound	Breaking Strength Pounds	Size No.	Feet per Pound	Breaking Strength Pounds
12	1518	27	42	435	86
18	1014	39	48	381	100
24	759	48	60	303	133
30	609	62	72	252	168
36	507	70	..	...	...



Jute Wrapping Twines

Put up in $\frac{1}{2}$ -pound balls.
2-Ply.....per pound
3-Ply.....per pound
4-Ply.....per pound
5-Ply.....per pound

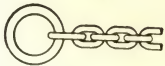
Standard Types of Acco Sling Chains



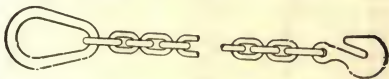
C
With Pear-Shaped Link Each End



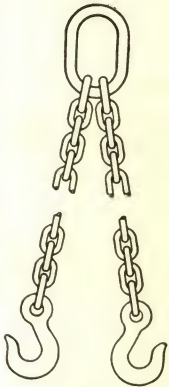
S
Single Sling with Ring and Sling Hook



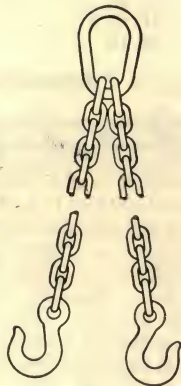
S
Single Sling with Ring and Grab Hook



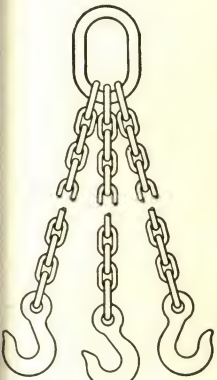
S
Single Sling with Pear-Shaped Links and Grab Hook



D
Double Sling with Oblong Link and Sling Hook



D
Double Sling with Pear-Shaped Links and Sling Hook

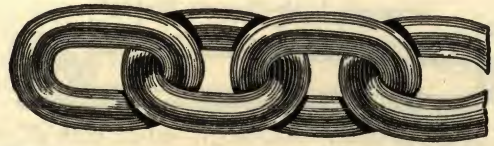


M-3
Triple Sling with Oblong Link and Sling Hook



M-4
Quadruple Sling with Oblong Link and Sling Hook

American Proof Coil Chain



Made from open-hearth basic steel, or iron, as desired.

Unless otherwise specified, steel chain, self-colored will be furnished.

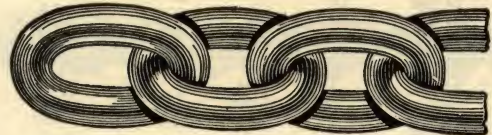
Furnished in continuous lengths or in short sections.

If enlarged end links, shackles, hooks, rings, or other attachments are wanted, it should be clearly specified; otherwise chain will be supplied without attachments.

Size In.	Size Material In.	In-side Lgth. in.	In-side Width In.	Links per Foot	Average Breaking Test Lb.	Proof Test Lb.	Safe Working Load Lb.	Wt., Lb. per 100 Feet
3/16	7/32	61/64	13/32	12 1/2	2090	1045	520	40
1/4	9/32	1	1 1/2	12	3600	1800	900	70
5/16	11/32	1 1/8	1 5/8	10 3/4	5440	2720	1360	105
3/8	13/32	1 1/4	1 3/4	9 3/4	7440	3720	1860	158
7/16	15/32	1 3/8	1 7/8	8 3/4	10000	5000	2500	210
1/2	17/32	1 1/2	1 15/16	8	13200	6600	3300	265
5/8	19/32	1 3/4	1 7/8	6 7/8	16400	8200	4100	335
3/4	21/32	1 7/8	1 1	6 3/8	20000	10000	5000	410
7/8	23/32	2 1/8	1 11/8	5 5/8	28300	14150	7075	580
1	25/32	2 1/2	1 13/8	4 3/4	38400	19200	9600	780
1 1/8	27/32	2 3/4	1 1 1/2	4 3/8	49600	24800	12400	1000
1 1/4	29/32	3 1/8	1 1 3/4	3 7/8	62400	31200	15600	1270
1 1/2	31/32	3 1/2	1 1 7/8	3 3/4	76800	38400	19200	1560

Prices upon application.

American H. C. High Test Steel Chain



Made from special analysis steel, heat treated for high tensile strength and resistance to impact loads.

Proof tested.

Has a tensile strength of approximately double that of ordinary steel chain.

Furnished in bright finish. Other finishes on special orders.

Shipped in continuous lengths in barrels containing approximately 1000 pounds, or in short lengths with attachments if required.

Chain is tagged every 25 feet.

Trade Size In.	Size Material In.	In-side Length In.	In-side Width In.	Links per Ft.	Wt. Lb. per 100 Ft.	Average Breaking Test Lb.	Proof Test Lb.	*Safe Working Test Lb.
1/4	9/32	59/64	1 1/8	13	70	7750	4100	2500
5/16	11/32	1 1/8	1 1/4	10 3/4	110	11500	6700	4000
3/8	13/32	1 1/4	1 1/2	9 1/4	155	16200	8500	5100
7/16	15/32	1 1/2	1 3/4	8 3/4	210	20700	11000	6600
1/2	17/32	1 3/4	1 7/8	7 1/2	265	26000	13700	8200
5/8	19/32	1 7/8	1 15/16	6 1/2	420	36900	19500	11500
3/4	21/32	2 1/16	1 1 1/8	6	600	50400	27000	16200

*When used on pocket and sprocket wheels or sheaves of small diameter, safe working load is only 2/3 of these figures.

Elwel Coil Chain

Straight Link-Electric Welded



General utility chain. Electrically welded with all welds smoothly trimmed to size of wire from which it is made.

Furnished bright finish unless otherwise specified.

Nos. 5 to 6/0 inclusive, packed 100 feet in a carton. No. 7/0 supplied in lengths of 100 feet in bulk unless ordered in continuous lengths.

Dimensions and weights are approximate.

Size No.	Per 100 Feet	W. & M. Gage No.	Links per Foot	Approx. Tensile Strength		Size No.	Per 100 Feet	W. & M. Gage No.	Links per Foot	Approx. Tensile Strength	
				Lb.	per 100 Ft.					Lb.	per 100 Ft.
5	\$9.20	12	10 ³ / ₄	590	8	2/0	\$12.40	6	9 ¹ / ₄	1430	27
4	9.20	11	10 ¹ / ₂	710	10	3/0	13.50	5	8 ¹ / ₂	1670	32
3	9.20	10	10 ¹ / ₄	830	13	4/0	15.10	7/32	8 ¹ / ₂	1890	35
2	9.20	9	10 ¹ / ₄	950	15	5/0	17.30	1/4	7 ³ / ₄	2530	46
1	9.70	8	9 ¹ / ₂	1080	19	6/0	21.10	9/32	8	3250	62
1/0	10.80	7	9 ³ / ₄	1240	23	7/0	28.10	5/16	8	4050	76

Elwel Twist Link Machine Chain



Nos. 5 to 6/0 inclusive packed 100 feet in a carton.

No. 7/0 supplied in lengths of 100 feet in bulk unless ordered in continuous length.

Furnished bright finish, unless otherwise ordered. Can also be furnished in straight link pattern. Weights, dimensions and fraction equivalents are approximate.

No.	Per 100 Feet	Gage	Size Inches	Links Per Ft.	Tensile Strength Pounds	Wt., Lb. per 100
5	\$14.60	12	7/64	25	620	10
4	14.60	11	1/8	23 ¹ / ₂	750	13
3	14.60	10	9/64	21 ¹ / ₂	875	16
2	14.60	9	5/32	21	1000	20
1	15.10	8	7/32	21	1140	25
1-0	15.70	7	11/64	17 ¹ / ₂	1310	29
2-0	16.20	6	3/16	16 ¹ / ₂	1510	34
3-0	17.30	5	13/64	15	1760	40
4-0	18.40	..	7/32	14	1990	43
5-0	24.80	..	1/4	12	2660	57
6-0	30.20	..	5/32	11 ¹ / ₂	3420	75
7-0	37.80	..	5/16	11	4260	94

Acco Elwel Straight Link Machine Chain



Furnished bright finish, unless otherwise ordered.

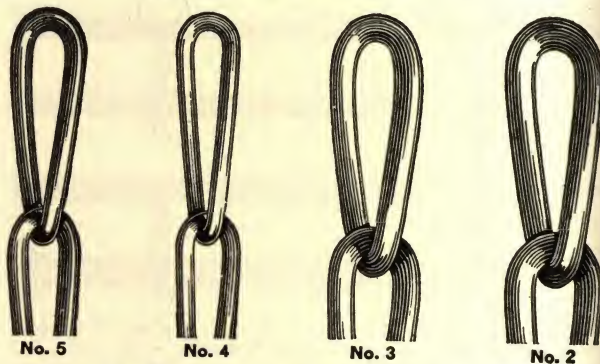
Nos. 5 to 6/0 inclusive packed 100 feet in a carton; No. 7/0 supplied in lengths of 100 feet in bulk unless ordered in continuous length.

No.	Bright Finish per 100 Feet	Gage No. or In.	Fractional Equiv. of Gage Inches	Tensile Strength Pound	Links per Foot	Weight Pounds per 100 Feet
5	\$14.60	12	7/64	620	24	9
4	14.60	11	1/8	750	22	12
3	14.60	10	9/64	875	20	15
2	14.60	9	5/32	1000	20	19
1	15.10	8	7/32	1140	19	23
1/0	15.70	7	11/64	1310	16 ¹ / ₂	27
2/0	16.20	6	3/16	1510	15 ¹ / ₄	32
3/0	17.30	5	13/64	1760	14 ¹ / ₄	37
4/0	18.40	7/32	..	1990	14	43
5/0	24.80	1/4	..	2660	11 ¹ / ₄	54
6/0	30.20	5/32	..	3420	11	69
7/0	37.80	5/16	..	4260	10	86

Weights, dimensions and fractional equivalents are approximate.

Elwel Coil Chain

Twist Link



Packed 100 feet in a carton, except No. 7-0, which is supplied in lengths of 100 feet in bulk unless ordered in continuous length. Furnished bright finish, unless otherwise ordered. Can also be furnished in straight link pattern.

Weights, dimensions and fractional equivalents are approximate.

No.	Per 100 Feet	Gage No.	Size In.	Links per Foot	Tensile Strength Pound	Weight Lb. per 100 Feet
5	\$9.20	12	7/64	11	590	8
4	9.20	11	1/8	11	710	10
3	9.20	10	9/64	10 ¹ / ₂	830	13
2	9.20	9	5/32	10 ¹ / ₂	950	16
1	9.70	8	7/32	10	1080	20
1-0	10.80	7	11/64	9 ³ / ₄	1240	24
2-0	12.40	6	3/16	9 ³ / ₄	1430	29
3-0	13.50	5	13/64	8 ³ / ₄	1670	33
4-0	15.10	..	7/32	8 ³ / ₄	1890	36
5-0	17.30	..	1/4	7 ³ / ₄	2530	48
6-0	21.10	..	5/32	7 ³ / ₄	3250	64
7-0	28.10	..	5/16	8	4050	84

American Tenso Chain



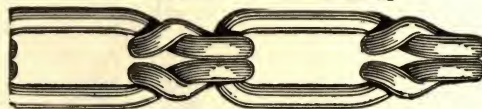
Furnished bright, zinc plated or hot galvanized.

Packed 100 feet in a carton. All sizes 250, 500 or 1000 feet, on reels according to size.

No.	Per 100 Feet	Approx. Tensile Strength Lb.	Approx. Wt., Lb. per 100	No.	Per 100 Feet	Approx. Tensile Strength Lb.	Approx. Wt., Lb. per 100
*7-7	\$4.55	18	175	2-0	\$6.05	10	1205
6	4.55	17	200	3-0	7.55	9	1280
5	4.55	16	260	4-0	9.05	8	1500
4	4.55	15	320	5-0	10.60	7	1850
3	4.55	14	375	6-0	12.10	6	2025
2	4.55	13	430	8-0	16.70	4	2850
1	4.90	12	785	10-0	22.75	2	4525
1-0	5.35	11	1000	..	..	..	..

*Special.

Lock Link Coil Chains



Adapted to many general uses. Used on light conveyors, rolling shutters, folding doors, etc. Lies flat, is smooth, flexible, and permits many adjustments.

Packed 100 feet in a carton: 250 feet and 500 feet on reels.

No.	Per 100 Ft.	Gage	Tensile Strength Lb.	Wt. per 100 Ft.	No.	Per 100 Ft.	Gage	Tensile Strength Lb.	Wt. per 100 Ft.
4	\$5.35	15	405	6	3/0	\$9.50	9	1753	25
3	5.35	14	495	7	4/0	11.40	8	1915	29
2	5.35	13	560	10	5/0	13.60	7	2440	34
1	6.05	12	940	13	6/0	16.70	6	2940	41
1/0	6.85	11	1055	17	7/0	18.20	5	3325	47
2/0	7.55	10	1545	22	...	...	...	...	...

American Single Jack Chain



No. 16 Actual Size

Can be furnished in either brass or steel.

Packed in cartons of 50 feet each and on reels containing 500 or 1000 feet, according to size.

No.	Brass per 100 Feet	Steel per 100 Feet	No.	Brass per 100 Feet	Steel per 100 Feet
22	\$3.10	\$2.60	14	\$8.60	\$3.20
21	2.95	2.55	12	12.40	3.75
20	3.10	2.55	10	18.65	4.55
19	3.50	2.55	8	27.90	5.40
18	3.90	2.55	6	43.05	7.45
16	5.45	2.75	5	54.30	9.15

American Double Jack Chain



No. 16 Actual Size

Brass or steel.

Packed in cartons of 50 feet each and on reels containing 500 or 1000 feet, according to size.

No.	Brass per 100 Feet	Steel per 100 Feet	No.	Brass per 100 Feet	Steel per 100 Feet
22	\$3.50	\$2.85	16	\$7.00	\$3.10
21	3.50	2.80	14	10.85	3.45
20	3.90	2.75	12	17.05	4.15
19	4.25	2.75	10	25.95	5.40
18	5.10	2.75	..	.....	....

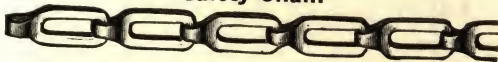
American Steel and Bronze Sash Chain



Bronze chain is made of a hard, non-corrosive alloy. Steel chain is made of copper-bearing material and furnished in the following finishes: Hot galvanized; coppered; sherardized; and hot galvanized and copper plated.

No.	8	25	30	35	40	45	50	60	65
Metal Gage	.035	.042	.028	.035	.042	.050	.060	.062	.072
Tensile Strength:									
Steel...lb.	350	425	375	500	600	750	900	925	1200
Bronze...lb.	300	375	350	425	550	675	800	900	1275
For Sash Weighing									
Not Over...lb.	50	50	60	100	150	175	200	....	....
Wt. per 500 Ft. lb.	20	25	24	30	35	46	57	74	96

Link Chain Safety Chain



Put up in cartons of 50 feet each.

No.	00	0	1
Brass.....per 100 feet	\$4.00	\$5.00	\$6.25
Steel.....per 100 feet	3.00	3.50	4.00
*Extras.....per 100 feet	.25	.25	.45

Navy Chain



Put up in cartons of 50 feet each.

No.	2	3	4	5	6
Brass.....per 100 feet	\$8.00	\$10.00	\$11.50	\$14.50	\$15.00
Steel.....per 100 feet	5.00	6.00	7.75	8.00	9.00
*Extras.....per 100 feet	.55	.55	.55	.65	.70

*Extra for nickel, brass, copper and cadmium plate.

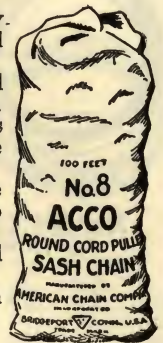
No. 8 Acco Sash Chain

Acco Sash Chain will operate smoothly over any cord pulley; it will replace cord with no change in pulleys.

Sash chain does not shrink or stretch and is not cut by sharp edges of pulleys or weights. It will not burn through in the early stages of a fire and thus provide drafts to make the fire burn more briskly.

Chain is neat, clean and noiseless. The weight and sash are permanently fastened to the chain by strong fixtures, easily inserted. Regularly supplied coppered or galvanized (grey) finish.

Packed in bags containing 100 feet with fixtures for 7 windows.



Price, Chain Complete with Fixtures....per 100 feet

Hodell Sash Chain Fixtures



Standard type fittings for use with the heavier types of sash chain. Made in two sizes: A, for light and medium sash; AA, for heavy sash. Galvanized or coppered finish.

Packed 1/2 dozen sets to a box.

Prices upon application.

Steel Cable Chain

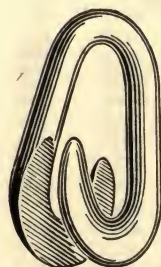


No. 30

No.	6	10	30	40	110
Per Foot.....	\$.92	.36	.34	.32	.38
Formation.....	2x3	2x3	2x3	2x2	2x3
Pitch.....inches	5/8	3/4	2 1/4	2 1/4	3 1/4
Width of Link.....inches	5/16	3/32	1 1/4	1 1/4	2 3/4
Thickness of Link.....inches	.106	.050	.045	.045	.058
Diameter of Rivet.....inches	.187	.105	.100	.100	.135
Tensile Strength: Steel...lb.	4500	1020	880	565	1445
Copper.....lb.	....	735	570	410	....
No. of Feet on Reel.....	100	250	250	250	250
Ship. Wt. per Reel....pounds	86	50	45	38	74

Repair Links

End Open—Bright Finish



Size Inches	Per Gross	Inside Dimen. Inches	Wt. Lb. per Gross
3/16x1	\$4.10	1 x 1 1/2	5
*No. 10-3	4.10	1 1/4 x 1 1/2	8
*No. 10-2	4.40	1 1/4 x 1 1/2	11
*No. 10-1	4.90	1 1/4 x 1 1/2	14
5/16x1 1/2	7.80	1 1/2 x 3/4	21
3/8x1 5/8	11.40	1 5/8 x 3/4	33
1/4x1 1/2	5.60	1 1/2 x 1 1/2	12
1/4x2	7.10	2 x 5/8	15
5/16x2	8.90	2 x 3/4	25

*No. 10-3, 1/32 inch; No. 10-2, 1/4 inch; No. 10-1, 5/32 inch.

Welded Steel Rings



Size Inches	Approx. Wt., Lb. per 100	Size Inches	Approx. Wt., Lb. per 100
9/16x2 1/2	76	1 1/8x5	575
5/8x3	110	1 3/8x6	1000
3/4x3	162	1 7/8x7	2000
7/8x3 1/2	253	1 7/8x8	2500
1x4	375		

No. 341 Laughlin Weldless Sling Links
For Thimble or Chain—Drop Forged Steel

Diam. Stock In.	No. G-341 Galv. Each	No. S-341 S.C. Each	Lgth. In- side In.	WIDTH —INSIDE, IN.—		For Chain In.	Safe Load Lb.	Est. Wt. Lb. Per 100
				Small End	Large End			
3/8	\$.40	\$.35	2 1/2	3/8	1 1/4	1/4	1340	23
1/2	.60	.50	3	1/2	1 5/8	3/8	2500	50
5/8	1.50	1.30	3 3/4	1 1/4	2 1/2	1/2	3300	110
3/4	2.00	1.65	4 1/2	1 1/2	3	9/16	4750	190
7/8	2.60	2.20	5 1/4	1 3/4	3 1/2	3/4	8000	285
1	3.50	2.75	6	2	4	7/8	8500	430
1 1/4	6.00	5.00	8 1/4	2 3/4	5 1/2	1 1/4	17300	700
1 3/8	8.40	6.60					16000	1125

No. 1 Cold Shuts
Self-Colored

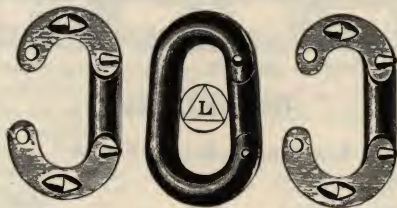
Made from regular chain material.



Size In.	Per 100	Inside Length In.	Inside Width In.	Approx. Wt. Lb. per 100
3/16	\$8.25	3/4	1 1/32	4
1/4	8.25	1 3/32	1 3/32	7
5/16	8.80	1 3/32	1 7/16	11
3/8	9.90	1 9/16	1 9/16	18
7/16	11.00	1 13/8	1 5/8	27
1/2	14.30	1 17/16	1 11/16	38
5/8	23.65	2	1 7/8	80
3/4	47.30	2 3/8	1	140
7/8	85.80	2 3/4	1 1/4	225
1	125.40	3	1 3/8	340
1 1/8	224.00	3 1/2	1 5/8	460
1 1/4	336.00	3 3/4	1 3/4	655

No. 334 Laughlin Pear-Shaped Missing Links

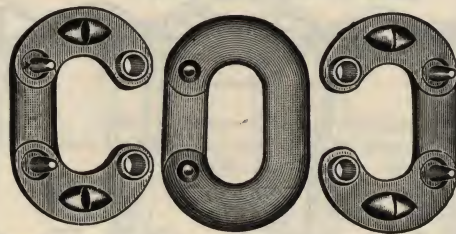
Drop-Forged Steel—Heat Treated



*Size Inches	No. G-334 Galv. per Doz.	No. S-334 Self- Colored per Doz.	WIDTH INSIDE —INCHES—		Length Inside Inches	Weight Pounds per Dozen
			Small End	Large End		
1/2	\$10.70	\$8.50	1 1/16	1	2 1/2	5
5/8	15.50	12.70	1 3/16	1 1/8	2 3/4	9 1/8
3/4	20.20	17.00	1	1 1/4	3 1/8	14 5/8
7/8	25.50	21.30	1 1/8	1 3/8	3 5/8	24 3/4
1	38.20	32.00	1 1/4	1 1/2	3 7/8	37
1 1/8	46.70	40.30	1 3/8	1 5/8	4 1/4	46

*Order by this dimension and give finish number.

Complete dimensional blueprints furnished on request.

No. 335 Laughlin Missing Links
Drop Forged Steel—Heat Treated

All sizes have rivet holes countersunk.
The 3/16-inch size is packed 24 in a box; the 1/4 to 3/4-inch sizes, 12 in a box. Larger sizes packed in bulk.

Size Inches	No. G-335 Galva- rized Per Dozen	No. S-335 Self- Colo ed Per Dozen	Overall Dimen- sions Inches	Breaking Strain of Proof Chain Tons	Govern- ment Tests of Missing Link Tons	Approx. Wt., Lb. per Doz.
3/16	\$2.90	\$2.20	1 3/16 x 2 5/32	1.1	1.2	3/8
1/4	2.90	2.20	1 1/2 x 1	1.8	2.8	3/4
5/16	3.20	2.30	1 11/16 x 1 13/32	2.2	4.2	1
3/8	4.20	3.20	2 1/16 x 1 3/8	3.7	5.6	2
7/16	5.00	3.80	2 11/16 x 1 17/32	5.	7.	3 1/8
1/2	6.00	4.20	2 11/16 x 1 23/32	6.6	8.	4 1/2
9/16	8.00	5.60	3 x 1 15/16	8.2	9.6	8 1/4
5/8	9.50	6.70	3 5/16 x 2 3/8	10.	11.5	9
3/4	12.50	9.50	3 7/8 x 2 1/2	14.2	17.	14 1/4
7/8	17.50	12.80	4 1/2 x 2 5/16	19.2	19.2	20 1/4
1	26.50	21.00	5 x 3 3/16	24.2	26.5	29
1 1/8	31.50	25.60	5 5/8 x 3 11/16	31.2	35.	40
1 1/4	41.00	33.30	6 1/8 x 4 3/16	38.4	42.	53 1/2
1 3/8	51.50	46.60	6 3/4 x 4 9/16	46.	56.	75
1 1/2	64.00	56.60	7 1/4 x 5	54.	64.	103
1 5/8	77.00	69.75	8 x 5 7/16	..	..	131
1 7/8	173.00	111.00	9 7/8 x 6 3/8	..	..	216

*With rivets only—no interlocking lugs.

†With reinforced rivet holes.

Williams' Vulcan Drop-Forged Hoist Hooks
With Eye—Weldless

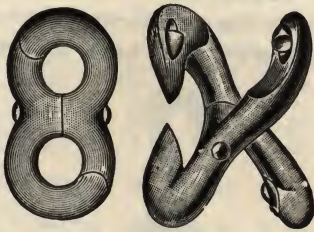
Specially heat treated after forging to increase strength and toughness and to reduce likelihood of breakage.

To insure proper service at listed capacity every hook, after heat treatment, is proof-tested to 50 per cent beyond its rated safe working load. Each hook so tested is stamped "O" near its piece number, shown in raised letters on forging, and can be readily identified as proof-tested. For further identification each hook is orange tipped.

No.	Each	DIAM. OF EYE, IN.		Open- ing or Throat In.	EXTREME DIMEN- SIONS, IN.		Safe Work- ing Load Net Tons
		In- side	Out- side		Length	Width	
22	\$.53	3/4	1 1/2	1	4 3/8	2 7/8	.5
23	.62	7/8	1 3/4	1 1/16	4 7/8	3 1/8	.6
24	.77	1	2	1 1/8	5 3/8	3 1/2	.7
25	1.06	1 1/8	2 1/4	1 1/4	6 3/16	3 7/8	1.2
26	1.52	1 1/4	2 1/2	1 3/8	6 7/8	4 3/8	1.7
27	2.18	1 3/8	2 3/4	1 1/2	7 5/8	4 7/8	2.1
28	3.06	1 1/2	3	1 3/4	8 1/8	5 5/8	2.5
29	4.14	1 5/8	3 1/4	1 7/8	9 9/16	6 3/8	3.
30	5.37	1 3/4	3 1/2	2 1/16	10 3/8	6 7/8	4.
31	6.82	2	4	2 1/4	11 1/2	7 1/2	4.7
32	9.28	2 3/8	4 5/8	2 1/2	13	8 1/4	5.5
33	13.64	2 3/4	5 1/4	3	14 3/4	9 1/4	6.8
34	26.86	3 3/8	6 1/8	3 3/8	16 3/4	11	8.
35	50.82	3 1/2	7	4	19 1/8	13 1/2	11.
36	124.87	4	8 1/2	4 1/2	22 3/4	15	20.
*36A	166.98	4	8 1/2	4 1/2	22 3/4	15	25.

*Made from alloy steel; others of carbon steel.

No. 338 Laughlin Swing Links
Drop-Forged Steel

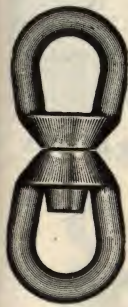


Bronze rivets.

Size Inches	No. G-338 Galv. per Doz.	No. S-338 Self- Colored per Doz.	Width Inches	Length Inches	I.D. Eye Inches	Weight Pounds per Dozen
1/4	\$5.10	\$4.65	1 1/16	1 29/32	3/8	1
5/16	6.10	5.10	1 1/8	2 1/8	3/8	1 1/2
3/8	7.20	5.65	1 1/2	2 17/32	9/16	2 1/2
7/16	9.65	7.35	1 5/8	2 29/32	19/32	3 3/4
1/2	12.10	9.10	1 3/4	3 1/16	5/8	5 1/2
5/8	20.50	16.85	2 1/8	4 1/16	11/16	11
3/4	27.20	23.00	2 1/2	4 7/8	1 1/8	20
7/8	43.00	35.75	2 3/4	5 1/4	1 1/4	30
1	51.50	43.00	3 1/16	6 1/16	1 1/2	45

Complete dimensional blueprints furnished on request.

No. G-402 Laughlin Swivels
Drop-Forged Steel, Galvanized



Size In.	Each	Length Overall Inches	Width Inside Inches	Est. Ultimate Tensile Strength Tons	Est. Wt. Lb. Each
1/4	\$1.50	3 3/8	3/4	2.5	3 1/16
5/16	1.90	4 1/8	1	3.5	3 1/16
3/8	2.00	5	1 1/4	6.3	5/8
1/2	3.10	6 3/8	1 1/2	10	1 1/4
5/8	5.20	7 3/4	1 3/4	14.3	2 1/4
3/4	7.40	8 5/8	2	19.5	3 1/2
7/8	9.40	10	2 1/4	25.5	5 3/8
1	11.30	11 1/2	2 1/2	32	8 3/4
1 1/8	16.50	12 1/2	2 3/4	35	12
1 1/4	22.50	13 1/2	3	48	16
1 1/2	62.00	20	4	98	49

Diamond Steel Hooks

Forged from special analysis steel. Will not break or chip.



Grab Hook

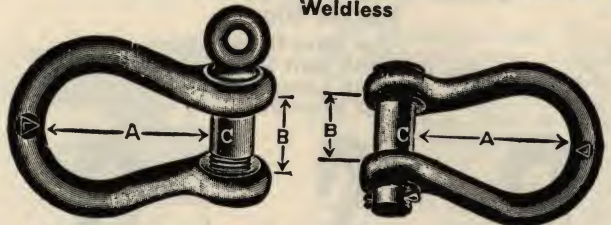


Round or Slip Hook

Grab Hook					
Size Chain In.	No.	Eye In.	Width Open. In.	Outside Dimen. Inches	Approx. Wt. Lb. 100 Pcs.
3/16	112	1 1/16	2 9/32	2 7/8 x 1 7/8	25
1/4	113	1 1/8	3 1/8	3 1/16 x 2 1/16	37 1/2
5/16	115	1 1/4	3 1/2	3 7/8 x 2 1/2	62 1/2
3/8	117	1 3/8	3 3/4	4 1/4 x 2 3/4	100
7/16	119	1 5/8	4 1/8	5 1/4 x 3 1/4	131 1/4
1/2	121	1 3/4	4 1/2	5 7/8 x 3 1/2	237 1/2
5/8	125	1 7/8	4 3/4	6 1/2 x 3 1/2	368 3/4
3/4	129	1 15/16	5	7 1/2 x 4 1/2	625
7/8	136	1 11/16	5 1/8	8 1/4 x 4 3/4	1000
1	144	1 13/16	5 1/2	10 1/2 x 5 1/2	1518 3/4

Round or Slip Hooks					
Size Chain In.	No.	Eye In.	Width Open. In.	Outside Dimen. Inches	Approx. Wt. Lb. 100 Pcs.
3/16	212	3/8	2 9/32	3 3/8 x 2 3/8	31 1/4
1/4	213	1/2	1 7/16	3 1/4 x 3 1/4	37 1/2
5/16	215	1 7/32	1 9/16	4 x 3 1/4	62 1/2
3/8	217	5/8	1 7/8	4 1/2 x 3 7/8	81 1/4
7/16	219	2 25/32	1 17/16	5 23/32 x 4 1/8	131 1/4
1/2	221	3 7/8	1 1/2	5 7/8 x 4 3/8	175
5/8	225	4 61/64	1 57/64	6 1/2 x 5 1/8	287 1/2
3/4	229	1 61/64	2 1/8	8 1/4 x 6 27/32	481 1/4
7/8	236	1 13/16	2 17/32	11 1/2 x 8 17/32	1168 3/4
1	244	1 1/2	2 27/32	13 1/2 x 9 3/4	1825
1 1/4	253	2 1/4	3 1/16	16 1/2 x 10 1/4	2900

Laughlin Drop Forged Steel Anchor Shackles
Weldless



Nos. G-209 and S-209,
Screw Pin

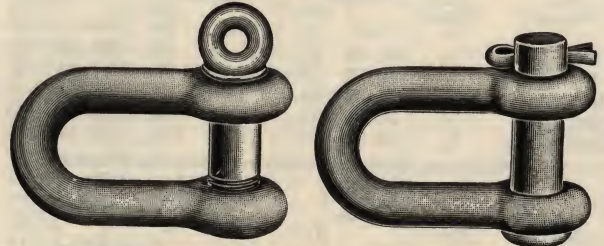
Nos. G-213 and S-213
Round Pin

Shackle pins are galvanized after threading.

Size In.	Galv. Each	Self- Colored Each	DIMENSIONS, INCHES				Min. Break- ing Load Lb.	Safe Work- ing Load Lb.	Wt. Lb. per 100
			A Lgth. in Clear	B Spread Bet. Eyes	C Diam. Pin	Outside Diam. of Eye			
3/16	\$0.50	\$0.46	7/8	1 1/8	1/4	9/16	3550	720	5
1/4	.50	.46	1 1/8	1 5/8	3/8	1 1/16	5300	1060	12
5/16	.56	.50	1 1/2	1 7/8	1/2	1 3/16	7950	1600	18
3/8	.62	.60	1 3/4	2 1/8	5/8	1 1/2	10850	2170	30
7/16	.80	.70	1 7/8	2 3/8	3/4	1 5/8	14150	2820	49
1/2	.96	.88	2 1/8	2 7/8	7/8	1 3/4	22100	4420	74
5/8	1.44	1.30	2 3/8	3 1/8	1	1 7/8	31800	6375	144
3/4	2.10	1.90	2 7/8	3 3/8	1 1/8	2 1/8	43250	8650	216
7/8	2.70	2.40	3 1/8	3 7/8	1 1/4	2 3/8	56550	11300	337
1	3.90	3.40	3 3/4	4 1/8	1 1/2	2 5/8	66800	13400	526
1 1/8	5.60	4.90	4 1/4	4 7/8	1 3/4	3 1/8	82500	16500	703
1 1/4	7.00	6.10	4 3/4	5 1/4	1 5/8	3 3/8	99800	20000	955
1 3/8	8.70	7.70	5 1/4	5 7/8	1 3/4	3 5/8	118700	23750	1257
1 1/2	11.30	10.10	5 3/4	6 1/4	1 7/8	4 1/8	161600	32350	1725
1 3/4	16.00	13.90	6 1/4	7 1/8	2	4 3/8	270000	54000	2775
2	24.00	20.80	7 1/4	8 1/4	2 1/4	5	405000	81000	4112
2 1/4	63.40	58.60	8 1/4	9 3/4	2 3/4	5 1/4	338000	67600	5650
2 1/2	76.00	69.70	10 1/2	11 1/2	3	6	485000	97000	8350
2 3/4	127.00	118.00	11 1/2	12 1/2	3 1/4	6 1/2			11500
3	138.00	127.00	13	14 1/2	4	7			14500

*Shackles furnished in No. G-209 only.
†Round pin only.

Laughlin Weldless Chain Shackles
Drop-Forged Steel



No. G-210 and S-210
Screw Pin

No. G-215 and S-215
Round Pin

Shackle pins galvanized after threading.

Size In.	Galva- nized Each	Self- Colored Each	DIMENSIONS, INCHES				TOLERANCES PLUS OR MINUS		Wt. Lb. per 100
			A Lgth. in Clear	B Spread Between Eyes	C Diam. Pin	O.D. Eye	Lgth. In.	Width In.	
1/4	\$0.50	\$0.46	7/8	1 1/8	1/4	9/16	1 1/16	1 1/16	10 1/2
5/16	.56	.50	1 1/8	1 5/8	3/8	1 1/16	1 1/16	1 1/16	16 1/2
3/8	.62	.60	1 1/4	2 1/8	1/2	1 1/8	1 1/8	1 1/8	29
7/16	.80	.70	1 1/2	2 3/8	5/8	1 1/2	1 1/2	1 1/2	42
1/2	.96	.88	1 3/4	2 7/8	3/4	1 3/4	1 3/4	1 3/4	68
5/8	1.44	1.30	2	3 1/8	7/8	1 7/8	1 7/8	1 7/8	121
3/4	2.10	1.90	2 1/8	3 3/8	1	2 1/8	2 1/8	2 1/8	214
7/8	2.70	2.40	2 3/8	3 7/8	1 1/8	2 3/8	2 3/8	2 3/8	307
1	3.90	3.40	2 7/8	4 1/8	1 1/4	2 5/8	2 5/8	2 5/8	453
1 1/8	5.60	4.90	3 1/8	4 7/8	1 1/2	3 1/8	3 1/8	3 1/8	656
1 1/4	7.00	6.10	3 3/4	5 1/4	1 3/4	3 3/8	3 3/8	3 3/8	887
1 3/8	8.70	7.70	4 1/4	5 7/8	1 5/8	3 5/8	3 5/8	3 5/8	1204
1 1/2	11.30	10.10	4 3/4	6 1/4	1 7/8	4 1/8	4 1/8	4 1/8	1620
1 3/4	16.00	13.90	5 1/4	7 1/8	2	4 3/8	4 3/8	4 3/8	2500
2	24.00	20.80	6 1/4	8 1/4	2 1/4	5	5	5	3600
2 1/4	63.40	58.60	7 1/4	9 3/4	2 3/4	5 1/4	5 1/4	5 1/4	5006
2 1/2	76.00	69.70	8	10 1/2	2 3/4	6	6	6	7400
2 3/4	127.00	118.00	9	11 1/2	3	7	7	7	10000
3	138.00	127.00	10 1/2	12 1/2	3 1/4	8	8	8	12500

*Round pin only.

Anvil Brand Regular Diamond Pattern Tackle Blocks

For Wire Rope
No. 641 With Stiff Swivel Hooks
No. 646 With Loose Side Hooks
No. 651 With Shackles



No. 641, Single
With Stiff
Swivel Hooks



No. 647, Double
With Loose
Side Hooks



No. 653, Triple
With
Shackles

Steel plate shells with edges ground smooth to protect the rope. Hooks and straps made of best forging steel. Cold drawn steel center pins.

Iron Sheaves, Common Iron Bushed

Size Sheave In.	Diam. Rope In.	Single		Double		Triple	
		Each	Wt. Lb.	Each	Wt. Lb.	Each	Wt. Lb.
6x1 x 3/4	3/8	\$10.00	13	\$17.00	20	\$24.00	28
8x1 1/4 x 7/8	1/2	14.00	23	21.00	38	28.00	51
10x1 1/4 x 7/8	5/8	19.00	34	29.00	54	39.00	72
12x1 1/2 x 1	5/8	28.00	55	43.00	84	58.00	120
14x1 1/2 x 1 1/8	3/4	38.00	75	57.00	120	76.00	160

Iron Sheaves, Self-Lubricating, Bronze Bushed

Size Sheave In.	Diam. Rope In.	Single		Double		Triple	
		Each	Wt. Lb.	Each	Wt. Lb.	Each	Wt. Lb.
6x1 x 3/4	3/8	\$12.00	13	\$21.00	20	\$30.00	28
8x1 1/4 x 7/8	1/2	16.00	23	25.00	38	34.00	51
10x1 1/4 x 7/8	5/8	21.00	34	33.00	54	45.00	72
12x1 1/2 x 1	5/8	30.00	55	47.00	84	64.00	120
14x1 1/2 x 1 1/8	3/4	40.00	75	61.00	120	82.00	160

Steel Sheaves, Self-Lubricating, Bronze Bushed

Size Sheave In.	Diam. Rope In.	Single		Double		Triple	
		Each	Wt. Lb.	Each	Wt. Lb.	Each	Wt. Lb.
6x1 x 3/4	3/8	\$16.00	...	\$28.50	...	\$41.50	28
8x1 1/4 x 7/8	1/2	23.00	...	38.50	...	54.00	51
10x1 1/4 x 7/8	5/8	29.00	...	48.50	...	68.50	72
12x1 1/2 x 1	5/8	44.00	...	74.50	...	105.50	120
14x1 1/2 x 1 1/8	3/4	54.50	...	90.00	...	126.00	160

No. 350 Anvil Brand Gin Blocks

For Manila Rope

A light, well made block.

Hook, frame and pin are of forged steel and sheave of best gray iron.

Blocks can be supplied with either 8, 10, 12, or 14-inch diameter sheaves and either iron or roller bushed.



Size Sheave Inches	No. 350-C Common Bushed Each	No. 350-R Roller Bushed Each	No. 350-B Bronze Bushed Each	For Rope Diam- eter Inches	Ap- prox. Weight Pounds
8	\$6.50	\$7.50	\$9.00	7/8	9
10	7.30	8.30	11.30	1	12
12	8.00	9.00	12.50	1 1/8	14
14	12.00	14.00	17.50	1 1/2	22

Anvil Brand Regular Inside Strapped Wood Tackle Blocks

For Manila Rope
With Iron Sheaves—Loose Side Hooks



No. 21, Single



No. 22, Double



No. 23, Triple

Beckets are furnished in all single, one-half double and one-third of the triple blocks without charge.

Lgth. Shell In.	For Diam. Rope In.	Common Iron Bushed			Patent Roller Bushed			Self-Lubricating Bronze Bushed		
		No. 21-C Single Each	No. 22-C Double Each	No. 23-C Triple Each	No. 21-R Single Each	No. 22-R Double Each	No. 23-R Triple Each	No. 21-B Single Each	No. 22-B Double Each	No. 23-B Triple Each
3	3/8	\$1.50	\$2.40	\$3.30	\$2.10	\$3.40	\$4.70	\$3.10	\$5.20	\$7.30
4	1/2	1.70	2.60	3.50	2.30	3.70	5.10	3.20	5.50	7.80
5	5/8	2.10	3.20	4.30	2.80	4.50	6.20	3.70	6.20	8.70
6	3/4	2.50	4.00	5.50	3.40	5.70	8.00	4.40	7.70	11.00
7	7/8	3.00	4.80	6.60	4.00	6.60	9.20	5.40	9.20	13.00
8	1	4.20	6.40	8.60	5.60	8.80	12.00	7.00	12.00	17.00
9	1 1/8	5.50	8.50	11.50	7.00	11.00	15.00	9.00	14.00	19.00
10	1 1/8	7.00	11.00	15.00	9.00	14.00	19.00	11.00	18.00	25.00
12	1 1/4	12.00	19.00	26.00	14.00	22.00	30.00	16.00	26.00	36.00

Anvil Brand Standard Steel Tackle Blocks

For Manila Rope
With Loose Side Hooks



No. 261, Single



No. 262, Double




No. 263, Triple

These blocks are lighter than wood blocks and equally strong. There is no danger of shells splitting. Shells have rounded edges to protect rope.

Lgth. Shell In.	For Diam. Rope In.	Common Iron Bushed			Patent Roller Bushed			Self-Lubricating Bronze Bushed		
		No. 261-C Single Each	No. 262-C Double Each	No. 263-C Triple Each	No. 261-R Single Each	No. 262-R Double Each	No. 263-R Triple Each	No. 261-B Single Each	No. 262-B Double Each	No. 263-B Triple Each
3	3/8	\$1.20	\$1.90	\$2.60	\$1.80	\$2.90	\$4.00	\$2.80	\$4.70	\$6.60
4	1/2	1.30	2.10	2.90	1.90	3.20	4.50	2.90	5.00	7.10
5	5/8	1.50	2.40	3.30	2.20	3.70	5.20	3.10	5.40	7.70
6	3/4	1.70	3.00	4.30	2.60	4.70	6.80	3.60	6.70	9.80
7	7/8	2.40	4.00	5.60	3.40	5.80	8.20	4.80	8.40	12.00
8	1	3.20	5.40	7.60	4.60	7.80	11.00	6.00	11.00	16.00
9	1 1/8	4.40	7.20	10.00	5.90	9.70	13.50	8.00	13.00	18.00
10	1 1/8	6.20	9.60	13.00	8.00	12.50	17.00	10.00	16.50	23.00
12	1 1/4	11.00	17.00	23.00	13.00	20.00	27.00	15.00	24.00	33.00

No. 385 Anvil Brand Drop Link Wood Shell Snatch Blocks

For Manila Rope—Flattened Swivel Hook

	Size Sheave Inches	No. 385-C Common Bushes Each	No. 385-R Patent Bushes Each	No. 385-B Bronze Bushes Each	Diam. Rope In.	Lgth. Shell In.	Wt. Lb.
	3 x 1 1/8 x 1/2	\$6.50	\$7.50	\$8.50	7/8	6	7
	3 1/2 x 1 1/4 x 1/2	8.00	9.00	10.00	7/8	7	8
	4 1/2 x 1 3/8 x 5/8	9.00	11.00	12.00	1	8	13
	5 x 1 3/8 x 5/8	13.00	15.00	16.00	1 1/8	9	15
	5 3/4 x 1 7/8 x 3/4	15.00	17.00	19.00	1 1/4	10	25
	6 3/4 x 2 1/8 x 3/4	21.00	25.00	27.00	1 1/2	12	34
	8 x 2 1/4 x 7/8	31.00	37.00	38.00	1 3/4	14	46
	9 x 2 5/8 x 1	43.00	52.00	52.00	2	16	68
	10 x 3 x 1 1/8	80.00	90.00	90.00	2 1/4	18	100

No. 390 Anvil Brand Drop Link Steel Shell Snatch Blocks

Iron Bushed—For Manila Rope—Flattened Swivel Hook

	Size Sheave Inches	No. 390-C Common Bushes Each	No. 390-P Patent Bushes Each	No. 390-B Bronze Bushes Each	Diam. Rope In.	Lgth. Shell In.	Wt. Lb.
	3 x 1 1/8 x 1/2	\$6.50	\$7.50	\$8.50	7/8	6	7
	3 1/2 x 1 1/4 x 1/2	8.00	9.00	10.00	7/8	7	8
	4 1/2 x 1 3/8 x 5/8	9.00	11.00	12.00	1	8	13
	5 x 1 3/8 x 5/8	13.00	15.00	16.00	1 1/8	9	15
	5 3/4 x 1 7/8 x 3/4	15.00	17.00	19.00	1 1/4	10	25
	6 3/4 x 2 1/8 x 3/4	21.00	25.00	27.00	1 1/2	12	34
	8 x 2 1/4 x 7/8	31.00	37.00	38.00	1 3/4	14	46
	9 x 2 5/8 x 1	43.00	52.00	52.00	2	16	68
	10 x 3 x 1 1/8	80.00	90.00	90.00	2 1/4	18	100

Ford Differential Chain Hoists



This is a simple chain hoist. Satisfactory where required but occasionally for light loads, and where high efficiency and speed are not essential.

The Ford Differential Chain Hoist is made with great care and of the best material.

It has drop-forged steel hooks and high grade chain.

Capacity.....	tons	1/4	1/2	1	1 1/2
Regular Lift.....	each	\$24.00	\$28.00	\$44.00	\$56.00
Extra Lift.....	per foot	4.60	4.60	5.00	5.20
Regular Lift.....	feet	6	7	8	8 1/2
Min. Dist. bet. Hooks.....	in.	18 3/8	21	26 3/8	32 1/4
Shipping Weight.....	pounds	23	30	54	87

Ford Whippet Electric Hoists



An all-purpose hoist. Flexible preformed cable, swaged on fittings. Gear shafting points supported on ball bearings. Timken bearing trolleys. Multiple disc load brake. Automatic jaw type motor brake. NEMA standards in motor frame and ratings. Alloy steel gears, wearing surfaces nitrided. Push-button control. No overlapping of cable with 12-foot lift.

Suspensions: trolley parallel mounting, hook, trolley cross-mounting, rigid or bolt; specify which.

Trolleys adjustable for 5 to 15-inch I-beams. Standard length conductor cable supplied unless collectors are specified.

Prices include 15-foot rubber covered conductor cable; 12-foot lift is standard. Add \$10.00 for 20-foot lift.

When ordering, specify capacity, mounting, operating current; type collectors and size and type of runway beams for trolley hoists.

For 60 Cycles Operating Current

		500-Pound Capacity			HOISTING CABLE		
No.	Each	Hoisting Speed FPM.	OPERATING CURRENT Volts	Phase	Motor Hp.	No.	Size In.
F2111	\$452.00	17	110	1	1/4	2	1/4
F2112	452.00	17	220	1	1/4		
F2132	460.00	17	220	3	1/4	2	1/4
F2134	460.00	17	440	3	1/4		
F2211	494.00	32	110	1	1/2	2	1/4
F2212	494.00	32	220	1	1/2		
F2232	504.00	32	220	3	1/2	2	1/4
F2234	504.00	32	440	3	1/2		
F2311	572.00	47	110	1	3/4	2	1/4
F2312	572.00	47	220	1	3/4		
F2332	542.00	47	220	3	3/4	2	1/4
F2334	542.00	47	440	3	3/4		
F2432	570.00	63	220	3	1	2	1/4
F2434	570.00	63	440	3	1		
		1000-Pound Capacity					
F4211	\$494.00	17	110	1	1/2	2	1/4
F4212	494.00	17	220	1	1/2		
F4232	504.00	17	220	3	1/2	2	1/4
F4234	504.00	17	440	3	1/2		
F4311	572.00	22	110	1	3/4	2	1/4
F4312	572.00	22	220	1	3/4		
F4332	542.00	22	220	3	3/4	2	1/4
F4334	542.00	22	440	3	3/4		
F4432	570.00	32	220	3	1	2	1/4
F4434	570.00	32	440	3	1		
		1500-Pound Capacity					
F6311	\$550.00	17	110	1	3/4	2	1/4
F6312	550.00	17	220	1	3/4	2	1/4
F6332	560.00	17	220	3	3/4	2	1/4
F6334	560.00	17	440	3	3/4	2	1/4
F6432	580.00	22	220	3	1	2	1/4
F6434	580.00	22	440	3	1	2	1/4
		2000-Pound Capacity					
F8432	\$580.00	17	220	3	1	2	1/4
F8434	580.00	17	440	3	1	2	1/4
F8632	630.00	22	220	3	1 1/2	2	1/4
F8634	630.00	22	440	3	1 1/2	2	1/4

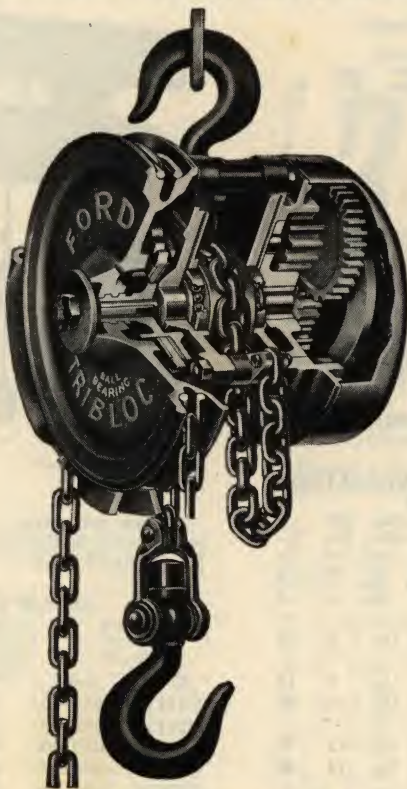
Extras

Description	Each	Wt., Lb.
Complete Hook Mounting.....	\$21.50	6 1/2
Complete Trolley Mounting.....	69.00	27
Base Mounting.....	50.00	24
Rigid Shoe Collector, Complete with Hoist...No	Charge	6 1/2
Rigid Shoe Collector Only.....	6.00	6 1/2
Spring Wheel Collector, Complete with Hoist.	12.50	9
Spring Wheel Collector Only.....	19.00	9
Lower Limit Switch.....	29.00	...

Model BB Ford Tribloc Chain Hoists



1/2 to 3 Ton



Sectional View of Model BB



5 and 6 Ton

Features

A ball bearing mounted hand hoist of spur geared type. It is a general-purpose hoist recommended for maximum durability, ease of operation and speed.
Precision ball bearings run in alloy steel races. Ball sealed oil ducts permit direct lubrication.
Hooks are drop-forged steel, heat-treated.

Load wheels have pockets accurately pitched to chain.
Load chain coupling is drop-forged and is easily detached.
Oil-less bronze bushings support driving pinion.
Load suspension members have safety factor of 5 to 1.
Automatic load brake is of Weston type.
Simplicity of design: fewer parts to renew.
Continuous hand chain guide prevents fouling.

Hook assemblies allow both rocking and swiveling.
Driving pinion is one-piece alloy steel forging.
Pawl is drop-forged and has file hard tip.
Load chain is high carbon steel, heat-treated.
Gear cover is pressed steel and is grease-tight.
Timken thrust bearings support bottom hook.
The load chain guard operates in any position.

Cap. Tons	Complete With Regular Lift Each	Extra Lift per Foot	Regular Lift Feet	Minimum Distance Between Hooks Inches	Chain Pull to Lift Full Load Lb.	Chain Handled to Lift Load 1 Foot Feet	LENGTH, REGULAR —CHAIN, FEET—		Net Wt. Lb.	Ship. Wt. Lb.
							Load	Hand		
1/2	\$115.00	\$3.60	8	12 3/8	57	21	9	16	57	69
1	148.00	3.80	8	16 3/8	73	31	9	16	88	107
1 1/2	198.00	4.00	8	18 1/2	103	35	9	16	127	150
2	230.00	4.20	9	21	106	43	10	18	182	210
†3	300.00	5.20	10	22 5/16	99	78	11	22	236	259
3	300.00	6.00	10	25 1/16	104	70	24	22	184	209
4	360.00	6.40	10	29 1/2	110	86	25	24	277	307
5	460.00	8.60	12	35 3/8	94	129	44	29	343	383
†5	460.00	8.40	12	32 3/4	85	154	27	29	336	373
6	545.00	8.60	12	35 3/8	112	129	44	29	343	383
†6	545.00	8.40	12	32 3/4	103	154	27	29	336	373
8	660.00	10.80	12	37 3/8	114	172	58	30	429	507
10	790.00	13.00	12	50 3/4	117	215	72	30	558	623
12	1145.00	17.20	12	52 1/4	\$112	\$129	93	†30	822	972
16	1430.00	21.60	12	52 3/8	\$114	\$173	117	†30	1009	1180
20	1800.00	26.00	12	55 1/16	\$117	\$216	146	†30	1178	1345

†Single load chain. ‡Double load chain. §For each chain. ¶Two chains.

For Model BB and Model F Chain Hoists



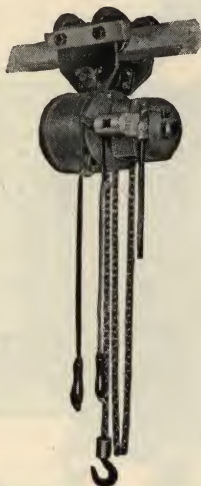
PART No.		Description	CAPACITY, TONS															
Model BB	Model F		$\frac{1}{4}$ and $\frac{1}{2}$	1	$1\frac{1}{2}$	2	3		4	5	6	8	10	12	16	20		
			Each	Each	Each	Each	Sgl. Chain Each	Double Chain Each	Each	Each	Each	Each	Each	Each	Each	Each		
901	200	Pawl Stud.....	\$1.00	\$1.50	\$1.80	\$1.90	\$1.90	\$1.80	\$1.90	\$1.90	\$1.90	\$1.90	\$1.90	\$1.90	\$1.90	\$1.90		
903	103	Small Separator Stud.....	1.20	1.50	1.80	2.20	2.20	1.80	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20		
904	104	Top Hook Cross Head.....	2.20	3.20	4.70	5.90	7.20											
908	108	Load Chain Guide Bolt.....	.60	1.10	1.20	1.50	1.50	1.20	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50		
910	210	Pawl Spring.....	.30	.50	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60		
912	112	Large Separator Stud.....	1.90	2.20	2.70	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90		
913	113	Top Hook.....	3.70	5.90	7.30	8.80	17.60											
914-15	314	Hand Chain Guides.....	8.80	10.30	14.70	17.60	17.60	14.70	17.60	17.60	17.60	17.60	17.60	17.60	17.60	17.60		
916	216	Disc Hub.....	7.00	8.80	13.20	16.20	16.20	13.20	16.20	16.20	16.20	16.20	16.20	16.20	16.20	16.20		
918	218	Driving Pinion.....	8.80	10.30	14.70	17.60	17.60	14.70	17.60	17.60	17.60	17.60	17.60	17.60	17.60	17.60		
919	119	Gear and Pinion Studs.....	1.30	1.80	2.20	2.70	2.70	2.20	2.70	2.70	2.70	2.70	2.70	2.70	2.70	2.70		
919S	119S	Gear and Pinion Studs.....					2.70											
920	220	Ratchet Case.....	8.80	13.20	17.60	19.10	19.10	17.60	19.10	19.10	19.10	19.10	19.10	19.10	19.10	19.10		
921	221	Pinion Cage.....	7.30	10.30	14.70	19.10	24.00	14.70	19.10	19.10	19.10	19.10	19.10	19.10	19.10	19.10		
923	223	Pawl.....	1.20	1.50	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80		
924	124	Stripper.....	1.00	1.00	1.50	1.80	1.80	1.50	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80		
925	125	Check Washer.....	1.30	1.80	2.20	2.50	2.50	2.20	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50		
926	126	Internal Gear.....	14.70	17.60	25.00	28.00	28.00	25.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00		
927	127	Gear and Pinion..... each	5.20	6.60	8.80	11.80	11.80	8.80	11.80	11.80	11.80	11.80	11.80	11.80	11.80	11.80		
927S	127S	Gear and Pinion..... each					13.50											
928	228	Handwheel.....	8.80	10.30	14.70	17.60	17.60	14.70	17.60	17.60	17.60	17.60	17.60	17.60	17.60	17.60		
929	129	Load Sheave.....	14.70	17.60	26.50	29.40	36.00	26.50	29.40	29.40	29.40	29.40	29.40	29.40	29.40	29.40		
930	130	Gear Cover.....	4.40	6.60	10.30	11.80	14.00	10.30	11.80	11.80	11.80	11.80	11.80	11.80	11.80	11.80		
203	203	Galvanized Disc.....	.60	.90	1.20	1.50	1.50	1.20	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50		
133	133	Lower Hook Assembly with Swivel Hook.....	7.30	11.00	13.20	17.60	24.00											
202	202	Leather Disc.....	1.90	2.20	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90		
935	201	Ratchet Disc.....	3.00	4.00	5.20	5.90	5.90	5.20	5.90	5.90	5.90	5.90	5.90	5.90	5.90	5.90		
937	...	Hand Chain..... per foot	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
...	...	Hand Chain, Compl.....	16.00	16.00	16.00	18.00	22.00	22.00	24.00	28.00	28.00	28.00	30.00	30.00	30.00	30.00		
938	...	Load Chain..... per foot	1.60	1.80	2.00	2.20	3.20	2.00	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20		
...	...	Load Chain, Complete, less Hook.....	14.40	16.20	18.00	22.00	35.20	48.00	55.00	96.80	96.80	127.60	158.40	204.60	257.40	321.20		
939	...	Bearing for Lower Swivel Hook.....	1.10	1.60	2.00	2.00	2.40	2.40	4.00	5.60								
913	141	Top Hook.....						17.60	26.50	35.30	53.00	73.50	103.00	110.30	147.00	323.60		
942	142	Top Yoke.....						41.20	61.80	73.50	88.20	117.60	176.50	191.20	206.00	220.60		
943	143	Top Guard and Guides.....																
944	144-8	Top or Btm. Pin..... each							20.60	29.40	35.30	44.00	47.00	50.00	53.00			
947	145-7	Top or Btm. Sheave..... each						2.90	3.70	3.70	7.30	8.80	10.30	10.30	13.20	17.60		
958	...	...						11.80	13.20	13.20	13.20	13.20	17.60	17.60	17.60	17.60
951	151	Btm. Guard and Guides.....						16.20	22.00	22.00	29.40	35.30	44.00	47.00	50.00	58.80		
952	...	...														
960	152	Bottom Side Plates and Cross Head...						14.70	20.60	28.00	47.00	58.80	73.50	73.50	79.40	85.10		
953	153	Bottom Hook.....						17.60	26.50	35.30	53.00	73.50	103.00	110.30	147.00	323.60		
905	...	...														
957	105	Load Chain Guide and Bolt.....	2.20	2.90	4.40	5.10	6.00	4.40	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10		
959	149	Detachable Load Chain Coupling.....																
965	...	Load Whl. Brg..... each	4.40	5.50	7.00	11.00	16.00	7.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00		
966	...	Oil Retainer.....	On Request															
967	...	Brgs. for Bottom Block..... each	On Request															
968	...	Brgs. for Top Block..... each	On Request															

Coffing Quik-Lift Electric Hoists

Standard Lift, 10 Feet



With Hook Suspension



With Trolley Suspension

Heavy duty motor, ball bearing, high starting torque. Available for any a.c. or d.c. circuit. Fool-proof safety limit switches automatically stop operation of hoist.

Hoist with trolley suspension has Hyatt roller bearings. Furnished with lubri-seal ball bearings throughout. Gears and pinions made of special alloy steel, heat-treated cut teeth. Gear system sealed and running in oil. Hooks made of drop-forged alloy steel, heat-treated to stand 200 per cent over rated capacity.

Extra heavy load chain is made of special alloy steel. Will not kink or bend. Sheave is extra heavy steel casting.

Sensitive pendant rope control permits load to be raised or lowered a fractional part of an inch.

When ordering state voltage, phase and cycle, lifting speed, and a.c. or d.c. Can be furnished with either swivel or non-swivel lug suspension at \$5.50 extra. Specify which type of lug suspension is desired.

Model J

110-220 V., 1 Phase, 60 Cycle or 220-440 V., 3 Phase, 60 Cycles

No.	With Coil Chain Each	Extra Coil Chain		Lifting Cap. Speed Lb. FPM.	Motor Hp.	Hooks In.	Wt. Lb.
		Per Lineal Foot	Per Lifting Foot				
J- 500-22	\$220.00	\$1.25	\$1.25	500 22	1 1/3	16 1/4	89
J- 500-33	239.80	1.25	1.25	500 33	1 1/2	16 1/4	99
J- 500-49	259.60	1.25	1.25	500 49	3/4	16 1/4	126
J-1000-11	220.00	1.25	1.25	1000 11	3/8	16 1/4	95
J-1000-17	239.80	1.25	1.25	1000 17	1/2	16 1/4	115
J-1000-24	259.60	1.25	1.25	1000 24	3/4	16 1/4	135
J-1500-17	275.00	1.70	1.70	1500 17	3/4	18 1/4	135
J-2000- 8	252.35	1.70	1.70	2000 8	1 1/2	18 1/4	115
J-2000-12	275.00	1.70	1.70	2000 12	3/4	18 1/4	135
JD-3000- 8 1/2	294.00	1.70	3.40	3000 8 1/2	3/4	23 1/4	155
JD-4000- 4	286.00	1.70	3.40	4000 4	1 1/2	23 1/4	155
JD-4000- 6	294.00	1.70	3.40	4000 6	3/4	23 1/4	180

Model S

220 or 440 V., 3-Phase, 60 Cycles

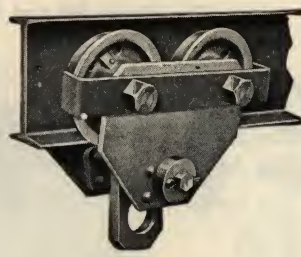
No.	Price	Per Lineal Foot	Per Lifting Foot	Lifting Cap. Speed Lb. FPM.	Motor Hp.	Hooks In.	Wt. Lb.
S-1000-36	\$355.15	\$1.70	\$1.70	1000 36	2	19 3/8	165
S-2000-18	345.00	1.70	1.70	2000 18	1 1/2	19 3/8	165
S-2000-36	390.50	1.70	1.70	2000 36	2	19 3/8	210
SD-4000- 9	360.00	1.70	3.40	4000 9	1 1/2	24 3/8	175
SD-4000-18	402.90	1.70	3.40	4000 18	2	24 3/8	225

Extra Drop Cord.....per foot \$50

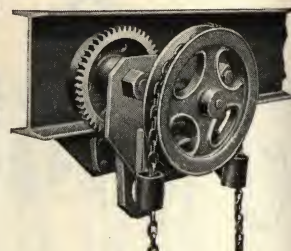
Letter D signifies that hoist has double chain. Prices shown are for standard hoists with hook suspension, 10 feet of lift, standard motors and rubber-covered drop cord 10 feet long. When lug suspension is used shortest distance between hooks is 1 inch less than shown in table.

Prices for trolley, special motors and lifts on application.

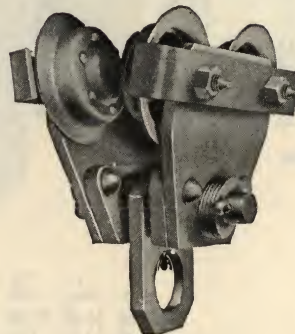
Coffing I-Beam or Hoist Trolleys



Plain



Geared



Ball Bearing

Plain.—Are equipped with Hyatt roller bearings.

Are adjustable to fit most any I-beam for their rated capacity. Guards are furnished only on trolleys up to and including two tons capacity.

Geared.—Equipped with Hyatt bearings only. All gearing is machine cut from solid blanks and hand chain is kept in proper position at all times by the use of suitable chain guide.

Trolleys of geared type are recommended on capacities over five tons or when accurate spotting of loads is necessary.

Ball Bearing.—A self-aligning trolley made in 1-ton capacity only. Pressed steel wheels with hardened treads with encased ball bearings.

Can be furnished with or without guards and Zerk oilers.

Specifications

Cap. Tons	Net Wt., Lb.		Adjust. for I-Beam In.	Std. Size I-Beams In. & Lb.	Greatest Distance for Supports Feet	Smallest Radius for Curve Inches	Drop Hand Chain Below Beam, Geared Trolley
*1BB	21	...	4, 5, 6, 7	5-10	10	20	.....
1	46	65	5, 6, 7, 8	6-12.5	14	21	8'-8"
1 1/2	70	90	6, 7, 8, 9	8-18.4	15	36	10'-5"
2	75	100	6, 7, 8, 9	8-18.4	15	36	10'-5"
3	120	160	8, 9, 10, 12	9-21.8	15	42	12'-3"
4	190	240	10, 12, 15	10-25.4	15	48	12'-6"
5	250	290	12, 15, 18	12-31.8	17	54	15'-3"
6	270	330	12, 15, 18	15-42.9	21	60	15'-6"
8	480	540	15, 18, 20, 24	20-65.4	28	63	16'-3"
10	525	700	20, 24	24-79.9	28	66	16'-9"

Prices

Cap. Tons	Plain Trolleys Hyatt Roller B Bearing Each	Geared Trolleys Each	Ball Bearing Trolleys—With Guards and Zerk Oilers Each	Without Guards and Zerk Oilers Each
1	\$36.75	\$81.25	\$23.00	\$17.00
1 1/2	49.50	93.00	.....	.....
2	60.75	102.00	.....	.....
3	77.50	132.25	.....	.....
4	103.00	174.00	.....	.....
5	138.75	209.00	.....	.....
6	165.00	255.25	.....	.....
8	214.50	371.25	.....	.....
10	313.50	464.00	.....	.....

*One-ton special ball bearing trolley.

If trolleys are required for larger standard I-beams than listed, a slight extra charge is made.

Coffing Safety-Pull Ratchet Lever Hoists

*With Single Locking Pawl



Nos. AG, FG

Nos. ATG, FTG

No. ZG

A safe and fast ratchet lever hoist. Equipped with a dual ratchet and pawl assembly, independent of each other, therefore the load is always under control. There is no clutch to slip and the hoist cannot drop its load.

Because of its adaptability to all types of work where a full stroke of the handle is permitted this single pawl hoist is the choice of most light and power and telephone construction and maintenance crews. Can be used for lifting or pulling.

Has side lever for positive up or down and a neutral position for automatic safety control, making hoist easy to operate. Has free chain feature, that is, when there is no load on hoist a slight pressure on thumb latch on side of lever allows load chain to be pulled through hoist, either up or down, without operating lever.

Malleable iron safety-valve handle will bend at maximum overload before chain will break or hooks will straighten out. Reversible handle. Safety stops prevent handle from spinning in case operator's hand should slip off handle.

All Safety Pull hoists are factory tested at 100 per cent over their rated capacity.

Nos. ATG, FTG and ZG hoists are readily converted by unsnapping the special snap hook from connecting link at bottom of hoist and allowing snap hook to act as a lug, preventing end of chain from passing through the super block.

No.	Each	Extra Lift per Foot	Rated Cap. Tons	Min. Lift Dist. In.	Lift Speed per Hook In.	Lb. on Lever to Lift Rated Cap.	Std. Lift Inches	Wt. Lb.
*AG	\$44.00	\$1.40	3/4	13	36	56	56 1/2	14
*ATG	54.50	2.80	1 1/2	15	18	60	57	17
*FG	61.40	2.75	1 1/2	16	48	116	56 1/2	25
*FTG	78.00	5.50	3	17	24	120	57	34
ZG 4 1/2	140.00	8.25	4 1/2	25	18	124	51	49
ZG 6	150.00	11.00	6	25	12	124	53	59
WG9	298.00	13.75	9	30	9.6	124	60	120
WG11	320.00	16.50	11	30	8	124	60	130
WG13	340.00	19.25	13	30	7	124	60	140
WG15	370.00	22.00	15	30	6	124	60	150

*Also available with intermediate (double) locking pawl that permits half stroke of handle.

NOTE. By attaching a special iron block, called a super attachment, to Nos. AG or FG along with 5 feet of chain, to keep the standard 5-foot lift, they can be converted into double their rated lifting capacities.

Simplex Util-A-Tools



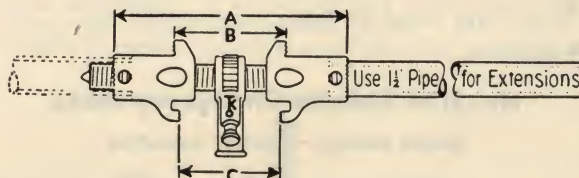
This tool pushes objects apart on the drop forged and corrugated nut ends, or on pipes inserted in nut wells or on the spreading lugs.

It pulls together, using chains with the sky hooks, which are inserted in the nut holes, or on clamping lugs.

It lifts when the triangular snap-on base is attached. Pulls spoked or solid center wheels and gears by attaching the three-way chain base, centering the live center in the shaft after removing the nut and connecting the three chains with the base and object to be pulled.

Util-A-Tool clamps parts for welding or assembly; straightens bent objects; bends pipe and structural steel members; loosens and pulls frozen objects; tensions guy wires; holds down portable machines, etc.

Specifications



Dimension A.....	inches	9 1/4
Dimension B.....	inches	3 1/2
Dimension C.....	inches	2 3/4
Capacity, on Lugs of Nuts.....	tons	2 1/2
Rated Capacity.....	tons	10

Prices

No.	610	612	614	616	618
Each Jack Only.....	\$18.50	19.00	19.50	20.00	20.50
Each Utilatool Set.....	\$56.00	56.50	57.00	57.50	58.00
Length Screw... inches	10	12	14	16	18
Screw Travel... inches	4 3/4	6 3/4	8 3/4	10 3/4	12 3/4
Weight..... pounds	11	12	13	14	15

Util-a-Tool Maintenance Sets

Set consists of the following:

*No. 610 Simplex Util-A-Tool.....	each	\$18.50
Sky Hooks (2), Drop Forged, Chrome Nickel Steel...		4.80
3-Way Base, Drop Forged Steel, Heat Treated..	each	5.50
No. 3-A Spreader Jack.....	each	3.40
1/2x40-Inch Heat Treated Chains (3), Fitted with Drop Forged Grab Hooks and Grab Claws.....		18.50
3/4 Inch Round by 18 Inches Long Chisel Pointed Lever Bar, Drop Forged, Heat Treated.....	each	1.00
18x8x8-Inch Steel Tool Box for Carrying Set.....	each	4.30
Complete Set with Tool Box; Weight, 78 Pounds..	each	56.00

*The Nos. 612, 614, 616 or 618 may be substituted in the maintenance set (see prices above). The jacks may be purchased with any of the equipment.

Stud links (3), drop forged steel, heat treated, \$3.30

Simplex Industrial Jacks

Single Action—Ratchet Lowering

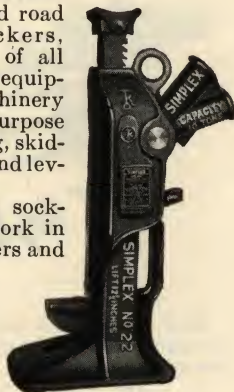


No. 24A

Used by contractors, bridge and road builders, truckers, and operators of all types of heavy equipment and machinery for general purpose lifting, lowering, skidding, moving, and leveling.

Double lever sockets facilitate work in cramped quarters and angular lifting.

Will lift full capacity on the toe and cap.



No. 22

No.	Each	Cap. Tons	Ht. In.	Lift In.	Lever In.	*Stand-ard Lever Socket	Toe Lift Min. In.	Wt. Lb.
84A	\$27.00	5	14	7	30	2-Way	1 3/4	28
85A	29.00	5	17	10	30	2-Way	1 3/4	30
86A	32.50	5	20	13	36	2-Way	1 3/4	35
22	42.50	10	21 1/4	12 1/2	60	2-Way	2 1/8	58
†A1022	65.70	10	20 1/2	12	60	2-Way	2	42
1017	38.00	10	17	9 1/2	60	2-Way	1 5/8	40
*24A	64.00	15	23 1/4	13	60	2-Way	2 1/2	90
*29	66.00	15	28 1/4	19	60	2-Way	2 1/2	96
*2029	74.00	20	28 1/4	18	70	2-Way	2 1/2	104

*Oval, large round, or square lever socket.

†Aluminum.

No. 310A Simplex Emergency Jacks

Single Acting—Ratchet Lowering



Ideal for lifting and lowering, pushing and pulling. For rigging, bridge work, pulling casing, pushing culverts, repairing power shovels, shoving and skidding, pulling and straightening telephone and power poles, etc.

Lifts on the cap, auxiliary shoe, the corrugated toe lift, and at any intermediate point by using the chain as a sling.

Has double lever socket, and foot operated base locking hook.

Furnished complete with chain, auxiliary cap shoe and lever.

No.	310A
Complete.....	each \$84.00
Capacity.....	tons 15
Height.....	inches 22
Lift.....	inches 14
Positions of Auxiliary Shoe.....	2
Weight of Jack.....	pounds 74
Weight Complete.....	pounds 109

Simplex Geared Jacks

Single Acting—Ratchet Lowering

Built for car, paver, trencher and power shovel repairs, heavy construction service, rigging and structural work.

Nos. 126 and 127. With broad right and left-hand toe lifts respectively.

Nos. 125 and 135. With lift only on the cap.

Furnished with oval socket and 6-foot oval hickory pole.

No.	125	126	127	135
Each.....	\$190.00	210.00	210.00	230.00
Cap... tons	25	25	25	35
Height				
.... inches	26 1/2	27 1/2	27 1/2	27
Lift... inches	15 1/2	12 1/2	12 1/2	16
Weight... lb.	168	192	192	228



Simplex Track Jacks

15-Ton—Tripping Type—Single and Double Acting

Designed for track maintenance and construction. The manually operated trip safely controls tripping the load.

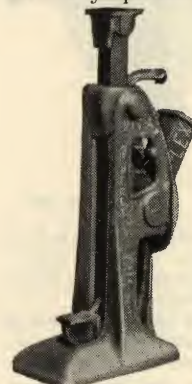
Built with high carbon and alloy steel heat-treated working parts, large base areas, and safety lugs underneath the caps. The jack housing where the toelift bears is hardened by Electriding, which reduces wear.

The Nos. 16A, 216A, 217A, 218, A17, 15A and A5 are single acting, and are identical except for height and lift. Built with a rustproof tension spring squarely in back of the lifting and retaining pawls, which insures safe lifting at any angle.

Nos. A5 and A17 have reinforced aluminum alloy housings and large, 2 1/2 x 3 1/4-inch forged toe lifts.

Nos. 15A and 16A have malleable housings, also large toe lifts.

The No. 101, double acting, operates on both the upward and downward



No. 217A

stroke of the lever bar.

Maximum man-power is developed by specifying square lever sockets and using steel lining bars. When oval or round sockets with oval or round hickory poles are desired, add \$4.00 to list. Lining bar prices upon application. Nos. 216A, 217A and 218 Electridred.

No.	Each	Height, In.	Lift Inches	Weight Pounds
A5	\$43.30	11	5	28
15A	33.00	11	5	41
16A	36.00	12	6	48
216A	34.00	17 1/2	8	54
A17	50.00	22 3/4	13	41 1/2
217A	37.00	22 3/4	13	60
218	46.00	29	19 1/4	76
101	37.00	22 3/4	13	60

Simplex Ball Bearing Journal Jacks

Powerful, light, simple, and over-strong. Low in height, but high in capacity and efficiency.

Modern design, heat-treated alloy steel forgings, special bronze nuts, and greater gear ratios. Ratchet mechanism fully enclosed. Positive stops.

Each jack furnished with a heat-treated steel lever bar.

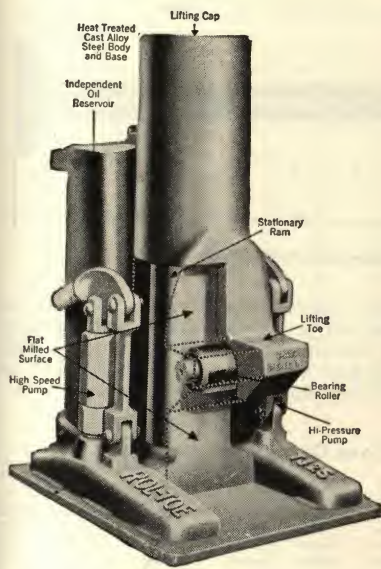


No. 2510

No.	*1510A	2510	3510	5010
Each.....	\$58.00	80.00	112.00	194.00
Lift.....	inches 5	5	5	4
Cap.....	tons 15	25	35	50
Weight.....	pounds 31	35	41	65

*Open type ratchet lever socket.

Simplex Rol-Toe Foot Lift Hydraulic Jacks



No. RTJ-25

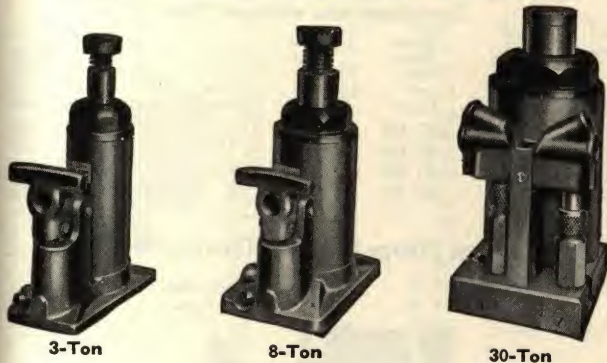
For smooth lift and easy operation.

Toe has same capacity as cap and always remains in even position; rides on bearing roller.

Ram does not travel; sturdy body lifts load and minimizes off-center loading. Oil reservoir independent of housing; no chance for pressure stress or oil leakage. The 10-ton size has one pump; 25-ton size, two; one high-speed, one high-pressure. Safety by-pass valve prevents overloading. Operates vertically or horizontally.

No.	RTJ-10	RTJ-25
Each	\$250.00	\$37.00
Capacity	10	25
Closed Toe	13 ³ / ₄	21 ¹ / ₂
Closed Height	11 ³ / ₄	14
Travel	6	7
Base Size	9 ¹ / ₂ x8	9x12
Weight	54	110

Simplex Heavy Duty Hydraulic Jacks



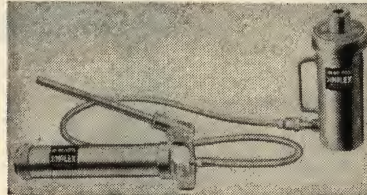
Drop-forged cap and machined steel piston. Bases of 30, 50, and 100-ton jacks are of special analysis solid steel bar stock; other jacks have pressure tested malleable iron bases. All jacks except 20, 30, 50 and 100-ton have screw extensions. Length lever, 20 inches. Convenient carrying handle.

Nos. 30HJ, 50HJ, and 100HJ have high and low speed pumps arranged in tandem. Pumps can be operated singly or in unison. Double sockets for operation in close quarters.

No.	Each	Cap. Tons	Low Height Inches	Hydraulic Lift Inches	Extension Screw Inches	Total Height Inches	Weight Pounds
3HJ	\$14.15	3	9	6 ⁹ / ₁₆	2	17 ⁹ / ₁₆	15
5HJ	16.90	5	9	6 ¹ / ₂	3	18 ¹ / ₂	18
8HJ	21.00	8	9	6 ³ / ₈	4 ³ / ₈	19 ³ / ₄	21 ¹ / ₂
12HJ	32.15	12	9	6 ¹ / ₁₆	3	18 ¹ / ₁₆	29 ¹ / ₂
20HJ	51.00	20	10	6 ¹ / ₁₆	...	16 ¹ / ₁₆	32 ¹ / ₂
30HJ	77.00	30	11	7	...	18	65
50HJ	148.25	50	12	7	...	19	115
100HJ	275.00	100	12	6 ¹ / ₈	...	18 ¹ / ₈	203

Simplex Re-Mo-Trol Hydraulic Pumps and Rams

Consists basically of a powerful pump and a remotely controlled hydraulic ram, connected by high pressure hose.



Lifts, pulls or pushes in any direction, from a distance, in complete safety. Can be used in a cramped space; wide application.

Safety valve on pump prevents overloads.

Four models have Simplex center hole tubular ram. Only necessary to insert a pull rod or screw through tubular ram plunger; rod is drawn through in direct line pull.

All rams have ³/₈-inch female pipe thread inlet.

Ram Specifications

No.	Each	Cap. Tons	Min. Ht. In.	Plunger Travel In.	Center Hole Diam., In.	Wt. Lb.
R102	\$23.63	10	4 ⁹ / ₁₆	2	...	5
R106	23.99	10	12	5 ¹ / ₂	...	11
R302	51.07	30	5	2	1 ¹ / ₈	13 ¹ / ₂
R306	61.46	30	9 ³ / ₄	6	1 ¹ / ₈	24 ¹ / ₂
R603	142.47	60	9 ³ / ₁₆	3	2 ¹ / ₈	60
R1003	151.48	100	10 ⁵ / ₁₆	3	3 ¹ / ₈	95
R2012	114.08	20	10 ³ / ₄	12 ¹ / ₈	...	45

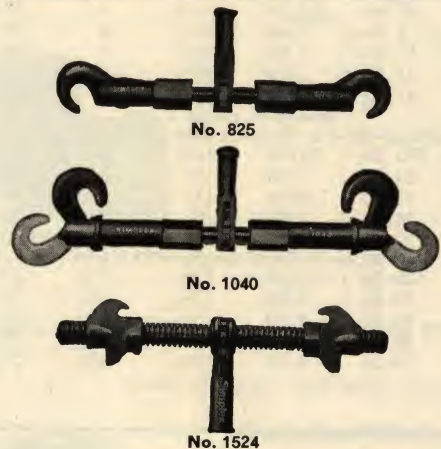
No. RP3 Pump. Single-speed, ³/₁₆-inch diameter piston has 1-inch stroke. Full 54 cubic inch oil capacity; ample quantity to serve Nos. R102, R106, R302 rams. Overall: length, 16 in.; width, 5¹/₂ in.; handle, 20 inches.

No. RP3, Complete with Hose and Coupling...each \$45.00

No. RP5 Pump. Two-speed pump with automatic change-over from high to low speed with pressure increase. Stepped piston, diameters of ¹/₂ and ¹/₁₆ inches; 1-inch stroke. Oil capacity, 126 cubic inches; serves all rams.

No. RP5, Complete with Hose and Coupling...each \$75.00

Simplex Push and Pull Jacks



No. 825.—8-ton puller jack for pulling together structural members, for bridge, piling and dock work and general wrecking.

No. 1040.—10-ton push and pull jack is made for pushing apart and pulling together, for car repairs, for bridge, piling and dock work and wrecking. The hinged end hooks swing 180°.

Nos. 1524, 1528 and 1536.—15-ton push and pull jacks are used extensively in the erection of bridges, tanks, forms and for pulling together and pushing apart structural members, sheets and equipment. Also used for straightening axles, piling, guard rails, spreading or drawing in car sills.

No.	825	1040	1524	1528	1536
Each	\$48.00	82.00	47.00	49.00	52.00
Capacity	8	10	15	15	15
Diam. of Screw ... in.	1 ¹ / ₂	1 ³ / ₄	2	2	2
Length Closed ... in.	25	40	24	28	36
Operating Length in.	12	19	18	22	30
Weight	38	70	41	44	50

Deduct \$1.00 from the price if the lever is not required.

Simplex Malleable Base Ball-Bearing Screw Jacks



4-Way Head Type

4-Way or
Ratchet Head
Types

Sizes Based
on
Housing
Height



Ratchet Head Type

Built with a single chrome-moly steel ball, nested in a hardened nickel steel ball seat—ball won't flatten and drop-forged cap can't slip. Friction is reduced 88 per cent for power and easy lifting. Heat-treated and chisel pointed high carbon steel lever bars are 40 per cent stronger than ordinary levers. Safety peephole prevents over extending screw and eliminates measuring. Jack color indicates capacity. Ratchet head type recommended for close-quarter operation.

4-Way Head Type

Painted Red—12-Ton Capacity with 1½-Inch Diameter Screw

Size Inches	Jacks Each	Chisel-Pointed Heat-Treated Lever Bars Each	Height of Closed Inches	Operable Rise of Screw Inches	*Lifting Cap. Tons	Jack Wt. Lb.
1½x6	\$5.60	\$1.20	10¼	3¾	12	10
1½x8	6.40	1.20	12¼	5¼	12	12
1½x10	7.10	1.20	14¼	7¾	12	14
1½x12	7.90	1.20	16¼	9¾	12	16

Painted Light Blue—16-Ton Capacity with 1¾-In. Diam. Screw

Size Inches	Jacks Each	Chisel-Pointed Heat-Treated Lever Bars Each	Height of Closed Inches	Operable Rise of Screw Inches	*Lifting Cap. Tons	Jack Wt. Lb.
1¾x8	\$7.50	\$1.50	12¼	5¼	16	15
1¾x10	8.60	1.50	14¼	7¼	16	18
1¾x12	9.40	1.50	16¼	9¼	16	20

Painted Grey—20-Ton Capacity with 2-Inch Diameter Screw

Size Inches	Jacks Each	Chisel-Pointed Heat-Treated Lever Bars Each	Height of Closed Inches	Operable Rise of Screw Inches	*Lifting Cap. Tons	Jack Wt. Lb.
2 x 6	\$7.90	\$2.40	10½	3	20	15
2 x 8	9.00	2.40	12¼	5	20	17
2 x 10	10.10	2.40	14¼	7	20	20
2 x 12	11.30	2.40	16¼	9	20	23
2 x 14	12.40	2.40	18¼	11	20	26

Ratchet Head Type

Painted Grey—20-Ton Capacity with 2-Inch Diameter Screw

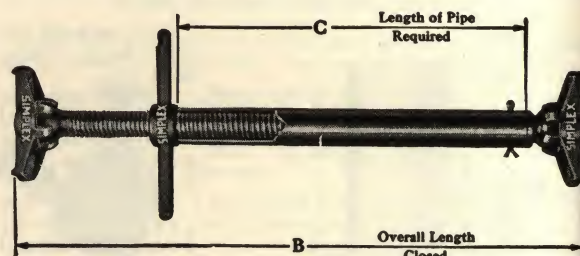
Size Inches	Jacks Each	Chisel-Pointed Heat-Treated Lever Bars Each	Height of Closed Inches	Operable Rise of Screw Inches	*Lifting Cap. Tons	Jack Wt. Lb.
2 x 6	\$23.20	\$2.40	10¼	3	20	20
2 x 8	24.00	2.40	12	5	20	22
2 x 10	25.10	2.40	14	7	20	25
2 x 12	26.20	2.40	16	9	20	28
2 x 14	27.40	2.40	18	11	20	31

Painted Dark Blue—24-Ton Capacity with 2½-In. Diam. Screw

Size Inches	Jacks Each	Chisel-Pointed Heat-Treated Lever Bars Each	Height of Closed Inches	Operable Rise of Screw Inches	*Lifting Cap. Tons	Jack Wt. Lb.
2½x8	\$29.20	\$3.60	12½	4¼	24	34
2½x12	33.80	3.60	16½	8¼	24	41
2½x14	35.20	3.60	18½	10¼	24	46
2½x16	36.70	3.60	20½	12¼	24	51
2½x18	38.20	3.60	22½	14¼	24	55

*The lifting capacities are guaranteed.

Simplex Drop-Forged Steel Trench Braces



Complete with Pipe

Constructed entirely of steel drop forgings. The safety lever nut is blunt, which prevents injuries and damage. The ball and socket joints at each end permit quick adjustment and tight gripping at all angles. Three way nuts can be furnished in lieu of lever nuts at no extra cost.

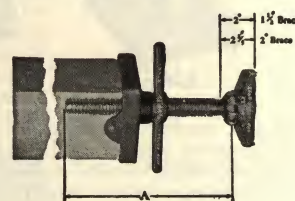
Specifications Complete with Pipe

No.	Per Dozen	Pipe and Screw Diam. Inches	A Length of Screw Inches	B Length of Brace Closed Inches	C Length of Pipe Inches	Safe Extension of Screw Inches	Wt., Lb. per Doz. with Pipe
2	\$69.00	1½	12	18	10½	7	193
3	72.00	1½	14	21	13½	9	210
4	72.00	1½	14	24	16½	9	218
5	78.00	1½	16	27	19½	10	235
6	78.00	1½	16	30	22½	10	243
10	153.00	2	18	36	26	10	480
11	156.00	2	18	42	32	10	502
12	159.00	2	18	48	38	10	524
13	162.00	2	18	54	44	10	545
14	165.00	2	18	60	50	10	567

Specifications without Pipe

No.	Without Pipe per Dozen	Screw Ends Only per Dozen	Socket Butts Only per Dozen	Diam- eter Screw Inches	Length Screw Inches	Safe Extension of Screw Inches	Weight Pounds per Dozen
16	\$60.00	\$45.00	\$15.00	1½	12	7	164
17	63.00	48.00	15.00	1½	14	9	173
18	66.00	51.00	15.00	1½	16	10	182
20	135.00	99.00	36.00	2	18	10	385

Simplex Drop-Forged Timber Braces



Especially valuable and practical for wide and deep trenches; also for foundation and subway work.

The screw ends are the same as the Simplex Trench Braces. Timbers are not furnished.

Three-way nuts can be furnished in lieu of lever nuts at no extra charge.

No.	21	22	24	25
Per Dozen Sets	\$70.50	\$78.00	\$129.00	\$144.00
Timber Caps. per doz.	22.50	30.00	30.00	45.00
Diameter Screw.....in.	1½	1½	2	2
A, Length Screw.....in.	14	14	18	18
Size Timber Caps.....in.	4x4	6x6	6x6	8x8
Weight per Doz.....lb.	133	169	343	353

**A COMPLETE SOURCE
OF SUPPLY
FOR YOUR
INDUSTRIAL AND
CONSTRUCTION NEEDS**

Standard Right-Hand Pipe Nipples

Wrought Steel

Nipples made from genuine wrought iron or copper bearing pipe, prices upon application.

For list of lengths not listed (under 12 inches), use list of next longer length. For list of lengths over 12 to 24 inches, add prices of the two nearest equal lengths.

Black Nipples



Pipe Size Inches	Close Length Inches	Long																		6-In. Tank Nipples Each
		Each	1 1/2 Each	2 Each	2 1/2 Each	3 Each	3 1/2 Each	4 Each	4 1/2 Each	5 Each	5 1/2 Each	6 Each	7 Each	8 Each	9 Each	10 Each	11 Each	12 Each		
1/8	3/4	\$.19	\$.19	\$.20	\$.21	\$.22	\$.23	\$.25	\$.27	\$.29	\$.31	\$.33	\$.38	\$.42	\$.46	\$.50	\$.53	\$.57		
1/4	1	.18	.19	.20	.21	.22	.23	.25	.27	.29	.31	.33	.38	.42	.46	.50	.53	.57	\$.83	
3/8	1 1/8	.18	.19	.20	.21	.22	.23	.25	.27	.29	.31	.33	.38	.42	.46	.50	.53	.57		
1/2	1 1/4	.19	.20	.22	.23	.25	.27	.29	.31	.33	.35	.37	.43	.47	.51	.56	.60	.65	.89	
3/4	1 1/2	.24	.26	.27	.29	.31	.33	.36	.39	.42	.45	.52	.58	.63	.69	.74	.80	1.10		
1	1 3/4	.35	...	.38	.41	.43	.46	.49	.52	.56	.59	.62	.70	.78	.85	.93	1.01	1.09	1.35
1 1/4	1 5/8	.44	...	.48	.50	.53	.57	.61	.65	.70	.74	.78	.89	.99	1.09	1.19	1.29	1.39	1.75
1 1/2	1 3/4	.53	...	.56	.61	.65	.70	.75	.80	.85	.90	.95	1.07	1.19	1.31	1.43	1.55	1.67	2.05
2	2	.68	...	...	.75	.82	.88	.95	1.02	1.09	1.16	1.23	1.38	1.54	1.70	1.86	2.02	2.18	2.63
2 1/2	2 1/8	1.36	...	...	...	1.48	1.60	1.72	1.82	1.94	2.06	2.18	2.45	2.72	2.99	3.26	3.53	3.80	4.50
3	2 5/8	1.72	...	...	...	1.84	1.98	2.12	2.24	2.39	2.54	2.69	3.04	3.39	3.74	4.09	4.44	4.79	5.35
3 1/2	2 3/4	2.46	...	...	...	...	...	2.94	3.10	3.37	3.63	3.89	4.37	4.85	5.33	5.81	6.29	6.77	...
4	2 7/8	2.80	...	...	...	...	...	3.36	3.55	3.85	4.15	4.45	4.99	5.54	6.09	6.64	7.19	7.74	...
5	3	4.88	...	...	...	...	...	...	6.05	6.44	6.83	7.22	7.97	8.72	9.47	10.22	10.97	11.72	...
6	3 1/8	6.57	...	...	...	...	...	...	8.10	8.61	9.11	9.63	10.59	11.55	12.51	13.47	14.43	15.39	...
8	3 1/2	14.88	...	...	...	...	...	...	...	16.60	17.18	17.76	18.92	20.08	21.24	22.40	23.56	24.72	...
10	3 7/8	20.35	...	...	...	...	...	...	...	21.89	...	...	23.47	25.05	26.63	28.21	29.79	31.37	32.95
12	4 1/2	27.00	...	...	...	...	...	...	...	...	...	...	30.44	...	35.04	37.34	39.64	41.94	44.24

Galvanized Nipples

Pipe Size Inches	Close Length Inches	Each	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6	7	8	9	10	11	12	6-In. Tank Nipples Each
1/8	3/4	\$.23	\$.23	\$.25	\$.27	\$.29	\$.31	\$.33	\$.35	\$.38	\$.41	\$.44	\$.52	\$.57	\$.62	\$.67	\$.72	\$.77	
1/4	1	.22	.22	.24	.26	.28	.30	.32	.34	.36	.38	.41	.49	.53	.57	.62	.66	.71	\$.96
3/8	1 1/8	.22	.22	.24	.26	.28	.30	.32	.34	.36	.38	.41	.49	.53	.57	.62	.66	.71	.96
1/2	1 1/4	.28	.31	.33	.35	.38	.41	.44	.48	.51	.55	.64	.71	.77	.85	.92	.99	1.02	
3/4	1 1/2	.42	.45	.49	.52	.56	.60	.64	.68	.72	.76	.86	.91	1.05	1.11	1.17	1.32	1.35	1.55
1	1 3/4	.53	.57	.61	.64	.69	.75	.80	.86	.91	.97	1.10	1.23	1.35	1.48	1.60	1.73	2.01	
1 1/4	2	.63	.68	.74	.79	.85	.91	.98	1.05	1.11	1.17	1.32	1.47	1.62	1.77	1.92	2.07	2.35	
1 1/2	2 1/4	.82	.91	.99	1.07	1.16	1.25	1.34	1.43	1.52	1.71	1.91	2.11	2.31	2.52	2.72	3.03		
2	2 1/2	1.69				1.84	1.99	2.15	2.28	2.43	2.59	2.74	3.09	3.43	3.78	4.12	4.47	5.18	
2 1/2	2 3/4	2.14				2.29	2.47	2.65	2.82	3.01	3.20	3.39	3.84	4.28	4.73	5.18	5.62	6.07	
3	3 1/4	3.04						3.66	3.86	4.20	4.53	4.85	5.46	6.07	6.68	7.29	7.90	8.51	
3 1/2	3 1/2	3.47						4.19	4.43	4.81	5.19	5.57	6.25	6.95	7.65	8.35	9.05	9.75	
4	4 1/4	6.01							7.49	7.99	8.48	8.98	9.92	10.88	11.83	12.83	13.73	14.68	
5	5 1/4	8.09							10.02	10.67	11.30	11.96	13.18	14.39	15.61	16.83	18.05	19.27	

Standard 90° Malleable Iron Elbows

Size Inches	Straight		Reducing	
	Black Each	Galv. Each	Black Each	Galv. Each
1/8	\$.16	\$.21		
1/4	.16	.21	\$.19	\$.25
3/8	.16	.21	.19	.25
1/2	.20	.26	.22	.29
3/4	.25	.33	.27	.37
1	.32	.42	.35	.45
1 1/4	.50	.66	.57	.76
1 1/2	.68	.88	.72	.97
2	.97	1.25	1.05	1.35
2 1/2	1.85	2.40	2.00	2.60
3	2.95	3.85	3.25	4.25
3 1/2	3.65	4.75		
4	5.00	6.50	5.50	7.20
5	11.50	15.00		
6	14.50	19.00		



Standard 90° Malleable Iron Street Elbows

Size Inches	Straight		Reducing	
	Black Each	Galv. Each	Black Each	Galv. Each
1/8	\$.22	\$.29		
1/4	.22	.29		
3/8	.22	.29		
1/2	.26	.34	\$.28	\$.37
3/4	.37	.48	.41	.53
1	.43	.54	.46	.62
1 1/4	.65	.84	.68	.91
1 1/2	.80	1.05	.86	1.10
2	1.20	1.55	1.35	1.75
2 1/2	2.10	2.75		
3	3.25	4.25		
4	5.30	7.00		



Sizes of 90° Street or Service Reducing Elbows

SIZE, INCHES		
1/2x3/8	1 1/4x1	1 1/2x1
3/4x1/2	1 1/4x3/4	1 1/2x3/4
1x3/4	1 1/2x1 1/4	2 x1 1/2

Sizes of 90° Reducing Elbows

SIZE, INCHES					
1/4x1/8	3/4x1/2	1 1/4x1	2 x1 1/2	3 x2 1/2	
3/8x1/4	1x3/4	1 1/4x3/4	2 x1 1/4	3 x2	
	1x1/2	1 1/4x1/2	2 x1	4 x3	
3/8x3/8	1 x3/4	1 1/2x1 1/4	2 x3/4		
1/2x3/8	1 x1/2	1 1/2x1	2 1/2x2		
1/2x1/4	1 x3/8	1 1/2x3/4	2 1/2x1 1/2		

Standard 45° Malleable Iron Elbows

Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each
1/8	\$.19	\$.25	2	\$ 1.05	\$ 1.35
1/4	.19	.25	2 1/2	2.05	2.65
3/8	.19	.25	3	3.30	4.30
1/2	.21	.28	3 1/2	4.00	5.00
3/4	.29	.40	4	5.30	6.65
1	.35	.46	5	13.00	17.00
1 1/4	.60	.80	6	16.00	21.00
1 1/2	.75	.95			



Standard 45° Malleable Iron Street Elbows

Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each
1/8	\$.24	\$.31	1	\$.48	\$.64
1/4	.24	.31	1 1/4	.72	.96
3/8	.24	.31	1 1/2	.90	1.15
1/2	.28	.35	2	1.35	1.75
3/4	.41	.51			



Standard Malleable Iron Tees



No. 110, Straight

Size In.	No. 110, Straight		No. 111, Reducing	
	Black Each	Galv. Each	Black Each	Galv. Each
1/8	\$.22	\$.28	...	...
1/4	.22	.28	\$.24	\$.31
3/8	.22	.28	.24	.31
1/2	.28	.36	.31	.40
3/4	.37	.48	.41	.53
1	.47	.64	.53	.70
1 1/4	.78	1.00	.85	1.10
1 1/2	.96	1.25	1.00	1.35
2	1.40	1.80	1.55	1.95
2 1/2	2.45	3.20	2.70	3.50
3	3.30	4.15	3.60	4.75
3 1/2	5.60	7.30	...	...
4	6.60	8.60	7.30	9.50
5	13.00	17.00	...	...
6	18.50	24.00	20.00	26.00



No. 111, Reducing

Standard Malleable Iron Service Tees



No. 115

Straight

Size In.	Black Each	Galv. Each
1/4	\$.28	\$.36
3/8	.28	.36

Reducing

Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each
1	\$.67	\$.90	1	.59	.79
1 1/4	1.00	1.35	1 1/4	.93	1.20
1 1/2	1.35	1.75	1 1/2	1.25	1.60
2	1.95	2.65	2	1.85	2.40



No. 112

Standard Malleable Iron 4-Way Tees

Size Inches	Black Each	Galv. Each	Size Inches	Black Each	Galv. Each
1/4	\$.40	\$.52	1	\$.80	\$ 1.05
3/8	.40	.52	1 1/4	1.10	1.45
1/2	.48	.64	1 1/2	1.50	1.95
3/4	.62	.80	2	2.30	3.00

Standard Malleable Iron Crosses

Straight



No. 116

Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each
1/8	\$.43	\$.56	2	\$ 2.30	\$ 3.00
1/4	.43	.56	2 1/2	3.70	4.80
3/8	.43	.56	3	5.50	7.10
1/2	.53	.71	3 1/2	8.50	11.25
3/4	.65	.85	4	10.00	13.00
1	.80	1.05	5	21.00	26.50
1 1/4	1.10	1.45	6	29.00	39.00
1 1/2	1.40	1.80	...	...	...



No. 119

Standard 45° Malleable Iron Y Bends or Branches

Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each
3/8	\$.33	\$.43	1 1/2	\$ 1.65	\$ 2.15
1/2	.39	.51	2	2.30	3.00
3/4	.50	.65	2 1/2	4.45	6.00
1	.72	.94	3	7.50	9.50
1 1/4	1.20	1.55	4	13.00	16.25

Standard Malleable Iron Couplings Right Hand



No. 120

Size Inches	Black Each	Galv. Each	Size Inches	Black Each	Galv. Each
1/8	\$.17	\$.22	1 1/4	\$.44	\$.58
1/4	.17	.22	1 1/2	.55	.70
3/8	.17	.22	2	.80	1.00
1/2	.19	.24	2 1/2	1.45	1.85
3/4	.22	.29	3	2.00	2.50
1	.34	.44	4	4.00	5.30

Malleable Reducer Couplings



No. 123

Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each
1/4	\$.17	\$.22	2	\$.80	\$ 1.00
3/8	.17	.22	2 1/2	1.45	1.85
1/2	.19	.24	3	2.00	2.50
3/4	.22	.29	3 1/2	3.65	4.75
1	.34	.44	4	4.00	5.30
1 1/4	.44	.58	5	7.50	10.00
1 1/2	.55	.70	6	10.00	13.00

Plain or Banded

Standard Malleable Iron Caps



No. 125
*Banded only.

Size Inches	Black Each	Galv. Each	Size Inches	Black Each	Galv. Each
1/4	\$.11	\$.15	2	\$.53	\$.66
3/8	.11	.15	*2 1/2	.94	1.20
1/2	.14	.18	*3	1.30	1.75
3/4	.19	.25	*3 1/2	2.00	2.70
1	.23	.30	*4	2.35	3.05
1 1/4	.30	.40	*5	4.20	5.50
1 1/2	.41	.53	*6	8.00	10.50

Standard Malleable Iron Waste Nuts



No. 126

Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each
1/8	\$.15	\$.19	1	\$.22	\$.29
1/4	.15	.19	1 1/4	.28	.36
3/8	.15	.19	1 1/2	.37	.48
1/2	.17	.22	2	.70	.88
3/4	.19	.25	...	...	...

Malleable Hexagon Bushings



No. 135

Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each
1/4	\$.12	\$.18	1 1/4	\$.21	\$.32
3/8	.12	.18	1 1/2	.25	.38
1/2	.13	.20	2	.30	.45
3/4	.15	.22	2 1/2	.42	.63
1	.17	.26	...	...	...



No. 136

Faced Bushings

Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each
*1/4	\$.18	\$.27	2 1/2	\$.80	\$ 1.20
*3/8	.18	.27	3	1.05	1.60
*1/2	.20	.30	3 1/2	1.75	2.65
*3/4	.24	.36	4	2.10	3.15
1	.28	.42	5	3.20	4.80
1 1/4	.36	.54	6	4.80	7.20
1 1/2	.45	.69	8	13.00	19.50
2	.61	.92	...	...	...

*Made of steel.
Other sizes are malleable.

Malleable Iron Floor Flanges



Size.....in.	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Black.....100	\$26.	\$26.	\$32.	\$32.	\$40.	\$40.	\$50.	\$65.
Galv.....100	52.	52.	64.	64.	80.	80.	100.	130.
O.D.....in.	3	3	3 3/16	3 7/16	3 3/4	3 15/16	4 5/16	4 11/16

Standard Malleable Iron Return Bends

Right-Hand
Close Pattern

Will not make up parallel coils, as center to center distance of two adjacent bends is greater than center to center distance between openings of a single bend.



No. 131

Size Inches	Black Each	Galv. Each	Center to Center Inches
1/2	\$.47	\$.60	1
3/4	.56	.73	1 1/4
1	.68	.88	1 1/2
1 1/4	1.00	1.30	1 3/4
1 1/2	1.40	1.80	2 3/16
2	2.50	3.15	2 5/8

Medium Pattern



No. 132

Size Inches	Black Each	Galv. Each	Center to Center Inches
1/2	\$.50	\$.65	1 1/4
3/4	.60	.78	1 1/2
1	.73	.95	1 7/8
1 1/4	1.10	1.45	2 1/4
1 1/2	1.55	2.00	2 1/2
2	2.60	3.40	3

Open Pattern



No. 133

Size Inches	Black Each	Galv. Each	Center to Center Inches
1/2	\$.53	\$.69	1 1/2
3/4	.65	.85	2
1	.80	1.05	2 1/2
1 1/4	1.30	1.70	3
1 1/2	1.80	2.35	3 1/2
2	2.85	3.70	4
2 1/2	5.50	6.90	4 1/2
3	8.30	10.80	5
4	16.00	20.00	6

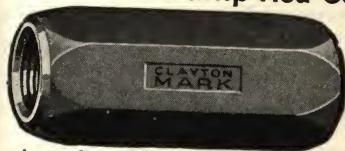
Standard Malleable Iron Lock Nuts



No. 127

Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each
1/8	\$.07	\$.09	1	\$.14	\$.18
1/4	.07	.09	1 1/4	.18	.23
3/8	.07	.09	1 1/2	.25	.32
1/2	.09	.11	2	.42	.55
3/4	.11	.14	...	...	...

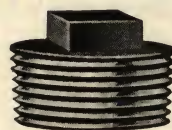
No. 720 Clayton Mark Hexagon Steel Pump Rod Couplings



Made from solid bar stock. Cadmium plated; threads and outside surface rustproof. Ends tapered. National Coarse (U.S.S.) threads furnished unless otherwise ordered. Packed 25 pieces per box; 3/8, 1/2 and 3/4-inch sizes.

Rod Size Inches	Per 100	Rod Threads per Inch	Wt. per 100	Rod Size Inches	Per 100	Rod Threads per In.	Wt. per 100
3/8x3/8	\$11.24	16	11	3/4x5/8	\$50.76	10x11	31
7/16x7/16	11.24	14	10	7/8x3/4	186.16	9	37
1/2x1/2	11.24	14x16	10	7/8x7/8	186.16	9x16	47
1/2x3/8	11.24	13	10 1/2	7/8x1 1/2	186.16	9x14	45
1/2x1/2	11.24	13x16	12	7/8x1 1/2	186.16	9x13	43
1/2x3/8	11.24	13x14	12	7/8x5/8	186.16	9x11	41
5/8x5/8	24.20	11	15	7/8x3/4	186.16	9x10	39
5/8x3/8	24.20	11x16	17	1 x 1	186.16	8	40
5/8x1/2	24.20	11x14	16 3/4	1 x 3/8	186.16	8x16	58
5/8x3/4	24.20	11x13	15 1/2	1 x 1/2	186.16	8x14	55
3/4x3/4	50.76	10	29 1/2	1 x 1 1/2	186.16	8x13	53
3/4x5/8	50.76	10x16	35 1/2	1 x 3/4	186.16	8x10	45
3/4x1/2	50.76	10x14	34	1 x 5/8	186.16	8x11	49
3/4x3/8	50.76	10x13	33				

Solid Square Head Cast Iron Plugs



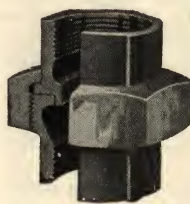
No. 321

Size Inches	Black Each	Galvanized Each	Size Inches	Black Each	Galvanized Each
1/8	\$.07	\$.12	1 1/4	\$.22	\$.37
1/4	.07	.12	1 1/2	.29	.49
3/8	.07	.12	2	.40	.68
1/2	.13	.22	2 1/2	.58	.98
3/4	.18	.30	3	.94	1.60
1	.20	.34	3 1/2	1.45	2.45

Standard Malleable Iron Unions

Gasket Type

For 150 Pounds Steam Working Pressure



No. 156

Size Inches	Black Each	Galv. Each
1/4	\$.85	\$ 1.10
3/8	.85	1.10
1/2	.90	1.20
3/4	1.00	1.30
1	1.30	1.70
1 1/4	1.80	2.35
1 1/2	2.20	2.85
2	2.75	3.55
2 1/2	5.60	7.30
3	9.25	12.00

No. 1280 Crane Malleable Iron Unions

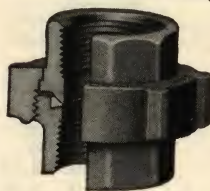
Female—Ground Joint

150 Pounds Steam Working Pressure
300 Pounds Cold Water, Air, Oil, Gas or Gasoline, Non-Shock Working Pressure

Air Tested

Ideal for domestic service and for a wide variety of industrial applications on steam, hot water, cold water, oil, air, gas, and gasoline lines.

The brass to iron ground joint seat is non-corrosive and holds pressure easily; no gasket is required.



Underwriters' approved.

Size In.	Black Each	Galv. Each	Size In.	Black Each	Galv. Each
1/4	\$1.10	\$1.30	1 1/4	\$2.35	\$2.85
3/8	1.10	1.30	1 1/2	2.85	3.45
1/2	1.15	1.40	2	3.60	4.30
3/4	1.30	1.55	2 1/2	7.35	8.80
1	1.70	2.05	3	12.00	14.50

Williams' Flange-Jacks

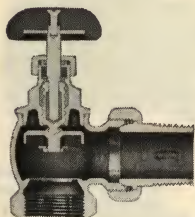
For replacing gaskets in flanged pipe lines. Opens joints quickly even when working space is limited. Flange faces will not be damaged, no sparks or vibration caused by hammer blows on chisels or wedges. Flanges separate as jack screws tightened. Bolts kept in alignment. Heavy jaws of one-piece steel forgings. Casehardened steel screw points.



	125-Lb. Cast Iron	150-Lb. Steel	250-Lb. Cast Iron	300-Lb. Steel
No.	2-20	2-20	1-12	3/4-12
30	16-48	18-24	12-30	12-24
No.	.....	.....	20	30
Per Pair	.....	\$26.40	.....	52.80
Wt. per Pair	.....	lb. 13	.....	45

No. 600 Dunham Brass Radiator Valves

Packed Stem—Angle Pattern



For steam or hot water heating systems with pressures up to 60 pounds.

Provides positive On or Off control for any heating element or radiator. Cast brass body and bonnet.

Heavy packing nut keeps packing tight around valve stem.

Heavy brass union nut and nipple resist severe strains met during installation.

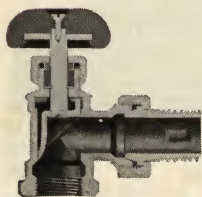
One-piece handle and non-rising stem for installation in exposed locations.

Furnished in angle pattern only, in the following sizes: 1/2, 3/4, 1, 1 1/4, 1 1/2 and 2 inches.

When ordering, specify valve number and size.

No. 400 Dunham Brass Hot Water Radiator Valves

Packed Stem—Angle Pattern



For all hot water heating systems with pressures up to 60 pounds.

Heavy packing nut exerts pressure on one-piece, graphited asbestos packing ring for tight seal around valve stem. Heavy brass union nut and nipple for severe strains often met during installation. Weep hole in valve gate permits enough circulation of water to discourage

freezing when valve is in closed position.

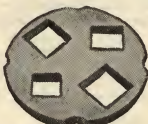
One-piece handle, large enough to help conceal packing nut, makes valve desirable for installation in exposed locations.

Furnished in angle pattern only, in the following sizes: 1/2, 3/4, 1, 1 1/4, 1 1/2 and 2 inches.

4-In-1 Bakelite Valve Handles



Bottom View of Handle with Steel Plate Removed



Turn Plate to Desired Size Opening



Replace Plate in Handle

This valve handle of molded bakelite can be used on any popular size of radiator valve, gate valve, and any wheel handle valve.

Nos. 1 and 2 will fit four different valve stems. Nos. 3 and 4 will fit four larger sized stems. Nos. 1 and 3, for screw assembly valves. Nos. 2 and 4, for nut assembly valves. Packed 1 dozen in a carton.

Nos. 1 and 2.....each \$.25
Nos. 3 and 4.....each .30

No. 1A Dole Vari-Vent Radiator Air Valves



Made of brass.

An adjustable vent valve which balances the flow of steam to radiators of oil, gas or stoker fired systems at the first breath of boiler pressure.

The vari-vent control provides any venting speed between wide open and virtually closed.

Tamper-proof construction, once set can be locked securely.

Chromium plated.

Packed in individual cartons, 12 cartons to standard package.

Shipping weight each, 4 ounces.

No. 1A.....each \$3.30

No. 1C Dole Quick Vent Float Valves



For venting steam mains and speeding up the flow of steam to radiators of automatically fired systems. Extra large venting port increases heating efficiency and uses low boiler pressure. Straight shank; 1/2-inch venting port.

Male iron pipe thread, 3/4 inch. Female iron pipe thread, 1/2 inch.

Packed in individual cartons. Shipping weight, 11 1/2 ounces.

No. 1C.....each \$9.05

No. 2B Dole Vari-Vent Radiator Vacuum Valves



An adjustable valve for vacuumizing and balancing gravity steam heating systems. Patented bronze bellows vacuum seal locks out air after it has once been expelled from system. Easily adjusted vari-vent feature assists in equalizing steam distribution to radiators.

Has simple, clearly indexed dial. Specially designed cam on collar assures straight line venting control. Nickel silver pin defeats corrosion and wear.

Tamper-proof. Can be locked in place—no special tools required.

Chromium plated, Dodecagon shell.

Packed in individual cartons, 12 cartons to standard package. Shipping weight each, 8 ounces.

No. 2B.....each \$5.75

No. 3 Dole Radiator Air Valves



For venting radiators of hand fired gravity steam heating systems.

Vents 25 sections 2 column 38 inch cast iron steam type radiator with rated heating surface of 100 square feet under a constant steam pressure of 5 pounds per square inch in 15 minutes.

Has double shell construction providing separate passages for air and condensation. Extra large float stops spitting or water leakage. Complete venting is assured at any pressure up to 10 pounds.

Connecting stem is 1/2 inch pipe thread. Unique syphon drain tube construction permits easy installation on any type of free standing radiator.

Chromium plated.

Packed in individual cartons; 12 cartons to standard package. Shipping weight each, 5 ounces.

No. 3.....each \$2.50

Dole Straight Shank Air Valves



Designed particularly for venting unit heaters, ceiling radiators, pipe coils and convectors on hand-fired systems. Will not stick or spit water.

No. 3C is specially designed for unit heaters, on either hand or automatically fired systems. Construction prevents water leakage.

Individually packed in cartons; 12 cartons to a standard package.

No.....	3A	3B	3C
Each.....	\$3.40	\$3.40	\$3.65
I.P.T.....inches	1/8	1/4	*
Weight.....ounces	6 1/2	6 1/2	6 1/4

*3/4-inch, male, 1/2-inch female.

Crane Brass Globe and Angle Valves

Brass Disc

Screwed Ends

For 125 Pounds Steam Working Pressure
For 200 Pounds Non-Shock Cold Water, Oil, or Gas Pressure

When wide open may be repacked while under pressure.



No. 1, Globe

Size In.	No. 1 Globe Each	No. 2 Angle Each
1/8	\$2.10	\$2.10
1/4	2.10	2.10
3/8	2.40	2.40
1/2	3.40	3.40
3/4	4.50	4.50
1	6.20	6.20
1 1/4	8.00	8.00
1 1/2	11.30	11.30
2	17.50	17.50
2 1/2	25.50	25.50
3	38.00	38.00



No. 2, Angle

No. 4 Dole Quick Vent Straight Shank Valves

Size Iron Pipe Thread: 3/4-Inch Male—1/2-Inch Female



For quick venting steam mains carrying any pressure up to 25 pounds. Does not provide a seal against water. Recommended only for mains that end 18 inches or more above the boiler water line. Chromium plated.

Packed 6 valves to standard package.

Shipping weight each, 5 3/4 ounces.

No. 4.....each \$4.60

No. 6B Dole Straight Shank Radiator Vacuum Valves



For venting the mains of vacuumized one-pipe steam systems. Prevents the return of air after it has been once expelled. Keeps mains hot long after steam pressure is reduced. Closes against water. Chromium plated.

No. 6B, Weight, 1 Pound.....each \$12.10

No. 1933 Dole Radiator Air Valves



Straight Shank type recommended for venting pipe coils, ceiling radiators and convectors on gravity steam heating systems. Assures complete venting up to 10 pounds pressure. Made of brass.

Angle Type for venting radiators of gravity steam heating systems. Extra large float provides seal against condensation to prevent spitting or water leakage. Brass.

Bright nickel finish. Stem length, 3/4 inch. Wrapped in tissue, 12 valves to a standard package.

Size, I.P.T.....inches	Straight Shank		Angle Type
	3/4 Male & 1/2 Female	1/8	
No. 1933.....each	\$1.85	2.00	1.35
Height.....inches	3 3/8	3 1/2	3
Diameter.....inches	1 1/4	1 7/8	1 1/4
Weight.....ounces	4	4 1/4	2 3/4

Crane Brass Globe and Angle Valves

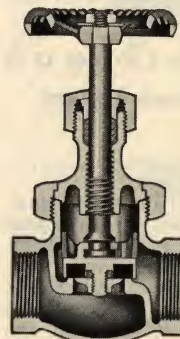
Composition Disc

For 150 Pounds Steam Working Pressure
For Cold Water, Oil, or Gas, Non-Shock:
Screwed Valves, 300 Pounds
Flanged Valves, 225 Pounds

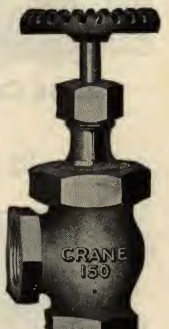
Valve, when wide open, can be repacked under pressure.

Regularly equipped with No. 1 Cranite disc for steam or hot water service. When ordered for cold water, air, gas, oil or gasoline service a No. 6 disc is furnished. This disc is also preferred for hot water service under 200°F.

Prices of flanged valves include drilling; no deduction is made if valve is ordered faced only.



No. 7, Globe Screwed



No. 7, Angle Screwed

Size Inches	No. 7, Screwed			No. 9, Flanged			
	Globe or Angle Each	Globe End to End Inches	Angle Ctr. to End Inches	Globe or Angle Each	Globe Face to Face In.	Angle Center to Face In.	Diameter Flanges Inches
1/8	\$3.30	2	1 5/16	.....	.....	.....	.....
1/4	3.30	2 1/2	1 5/16	.....	.....	.....	.....
3/8	4.10	2 5/8	1 11/16	.....	.....	.....	.....
1/2	5.20	2 11/16	1 11/4	.....	.....	.....	.....
3/4	7.20	3 3/16	1 7/8	.....	.....	.....	.....
1	9.80	3 3/4	1 11/16	\$26.00	4 3/8	2 9/16	4 1/4
1 1/4	13.40	4 1/4	2	33.00	4 13/16	2 7/8	4 5/8
1 1/2	16.70	4 3/4	2 3/16	40.00	5 1/2	3 3/16	5
2	27.00	5 3/4	2 11/16	60.00	6 1/2	3 3/4	6
2 1/2	49.00	6 3/4	3 1/4	91.00	7 1/2	4 5/16	7
3	69.00	8	3 13/16	126.00	8 7/8	4 9/8	7 1/2

No. 410 Crane Brass Gate Valves

Wedge Disc—Non-Rising Stem

Working Pressure

Screwed Ends

For 100 Pounds Saturated Steam
150 pounds water, 200°F, 150 oil or gas, 150°F

For use where working conditions are not severe. Recommended for general shut-off valve service on low pressure steam and water lines. Suited for heating systems, city water, and similar low pressure service.



Size In.	Each	End to End Inches	Size In.	Each	End to End Inches
1/4	\$3.00	1 3/4	1	\$4.90	2 7/16
3/8	3.00	1 13/16	1 1/4	6.60	2 7/8
1/2	3.50	1 15/16	1 1/2	8.40	3
3/4	4.10	2 1/16	2	12.00	3 1/4

No. 438 Crane Brass Gate Valves

Wedge Disc—Non-Rising Stem

Screwed Ends

For 125 Pounds Steam Working Pressure

For 200 Pounds Cold Water, Oil or Gas, Non-Shock

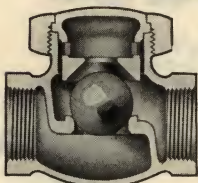
For general service on steam, water, oil, or gas lines. Stuffing box is equipped with a gland.

When wide open, can be repacked while under pressure.



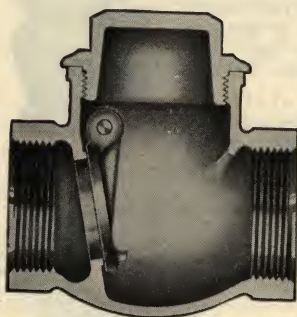
Size In.	Each	End to End In.
1/4	\$4.30	1 3/4
3/8	4.30	1 13/16
1/2	5.00	2
3/4	5.90	2 1/4
1	7.00	2 11/16
1 1/4	9.40	3
1 1/2	12.00	3 1/4
2	17.00	3 11/16
2 1/2	27.60	4 1/4
3	41.00	4 11/16

No. 31 Brass Horizontal Check Valves



Screwed Ends
For Steam Working Pressure up to 150 Pounds
For 300 Lb. Cold Water, Oil or Gas, Non-Shock
Ball disc type valve. Union cap and brass ring. Furnished with drip cock at extra price.
Size.....in. 1/2 3/4 1 1 1/4
No. 31...each \$4.50 6.20 8.60 13.00

No. 34 Crane Brass Swing Check Valves



Brass Disc
Screwed Ends
For 125 Pounds Steam Working Pressure
For 200 Pounds Cold Water, Non-Shock

For steam and water lines. May be used in horizontal position or in vertical position for upward flow. Disc is integral with hinge. Has disc stop, preventing disc from sticking in the open position.

Size Inches	Each	End to End In.	Size Inches	Each	End to End In.
3/8	\$3.80	1 7/8	1 1/2	\$9.70	4 1/4
1/2	4.30	2 1/4	2	14.70	5 1/8
3/4	4.90	2 11/16	2 1/2	24.00	6 1/16
1	6.50	3 3/16	3	36.00	7 3/8
1 1/4	8.00	3 11/16	...	...	...

No. 20 Crane Brass Check Valves

Horizontal—Brass Disc

Screwed Ends
For 125 Pounds Steam Working Pressure
For 200 Pounds Cold Water, Oil, or Gas, Non-Shock

Recommended for general service on steam, water, oil, or gas lines.



Size Inches	Each	End to End Inches
*1/8	\$2.10	1 1/16
*1/4	2.10	1 3/8
*3/8	2.30	1 7/8
1/2	3.20	2 1/4
3/4	4.30	2 11/16
1	5.60	3 3/16
1 1/4	7.20	3 11/16
1 1/2	9.30	4 1/4
2	13.80	5 1/8
2 1/2	23.00	6 1/16
3	34.00	7 1/16

*Ball disc type.

No. 24 Crane Brass Check Valves

Vertical—Brass Disc

Screwed Ends
For 125 Pounds Steam Working Pressure
For 200 Pounds Cold Water, Oil, or Gas, Non-Shock

These valves are recommended for general service on steam, water, oil, or gas lines.

The vertical check valve is for use in lines with upward flow. It is installed with the inlet side down.



Size Inches	Each	End to End In.	Size Inches	Each	End to End In.
*1/4	\$2.60	1 13/16	1 1/4	\$7.50	3 13/16
*3/8	2.80	1 3/4	1 1/2	10.30	4 1/8
1/2	3.90	2 5/16	2	15.20	4 11/16
3/4	4.70	2 3/4	2 1/2	24.00	5 3/4
1	6.20	3 1/16	3	36.00	6 5/16

*Ball disc type.

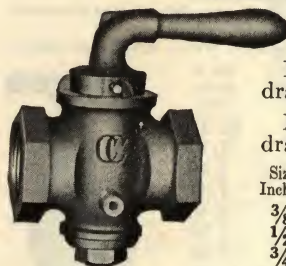
No. 916 Flat Head Brass Gas Service Lock Cocks



Size.....inches	1/2	3/4	1	1 1/4
No. 916...each	\$2.80	3.60	4.60	6.00

Crane Brass Stops and Stops and Drains

Rough—Lever Handle
Flatway For Iron Pipe



No. 804 1/2, without check or drain.

No. 806 1/2 with check and tapped drain.

Size Inches	No. 804 1/2 Each	No. 806 1/2 Each
3/8	\$2.10	\$2.50
1/2	2.60	2.80
3/4	3.40	3.60
1	4.90	5.20
1 1/4	6.80	...
1 1/2	9.30	...
2	15.40	...

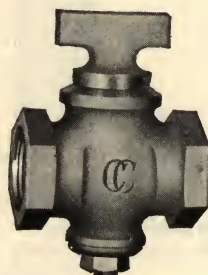
Crane Brass Stops and Stops and Drains

Rough—Solid Tee Handle

Flatway For Iron Pipe

No. 804, without drain.

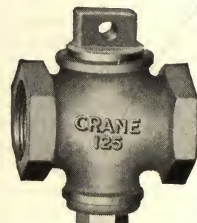
No. 806, with check and drilled drain.



Size Inches	No. 804 Each	No. 806 Each
1/2	\$2.60	\$2.80
3/4	3.40	3.60
1	4.90	5.20
1 1/4	6.80	7.10
1 1/2	9.30	10.50
2	15.40	18.20

Crane Brass Steam Cocks

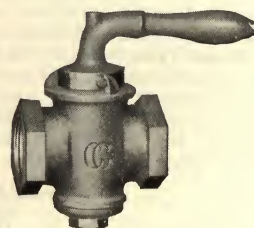
125 Pounds Working Pressure
Air Tested



No. 250, Square Head					No. 252, Flat Head				
Size.....in.	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	
Nos. 250 or 252 ea.	\$2.00	2.30	3.00	3.90	5.40	7.00	9.30	15.00	
No. 254 Square Head with Check									
Size.....in.	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2			
No. 254.....each	\$3.60	4.60	6.30	8.40	10.80	17.00			

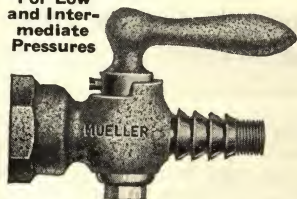
No. 298 Crane Brass Gas Stove Stops

Lever Handle, With Check



Size.....inches	1/4	3/8	1/2	3/4	1
No. 298.....each	\$2.10	2.40	2.70	3.30	4.30

For Low
and Inter-
mediate
Pressures



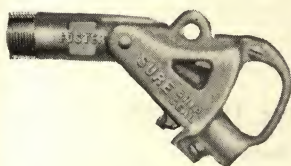
No. 11087 Mueller Brass Round Way Gas Hose Stops

Female I.P.S. Inlet, In.	Hose Outlet In.	Each
3/8	3/8	.....
1/2	3/8	.....
3/4	3/8	.....

Foster Oil Gates

With Sure-Grip Handle

U.S. Standard Iron Pipe Thread

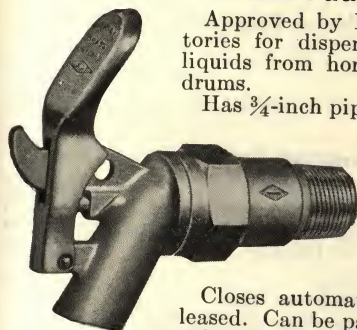


For rapid dispensing of heavy oils, paints, waxes, solvents, syrup, cheese, soap, etc. Tamperproof; designed for padlocking; full flow construction.

Aluminum gate is non-sparking; no fire hazard when used with inflammable liquids.

Size Inches	No. 700A Aluminum		No. 700B Brass		No. 700C Cast Iron		No. in Pkg.
	Per Dozen	Wt. Lb. per Doz.	Per Dozen	Wt. Lb. per Doz.	Per Dozen	Wt. Lb. per Doz.	
3/4	\$23.21	8	\$29.93	16	\$22.10	15	6
1	28.35	10	35.28	19	27.00	18	6
1 1/4	30.77	14	39.90	26	29.30	25	6
1 1/2	32.55	20	43.37	33	31.00	32	3
2	41.48	24	53.92	40	39.50	39	3
3	91.30	42	138.00	92	86.95	100	6
4	218.30	85	323.30	185	207.90	200	3

No. 269-G Imperial Self-Closing Drum Faucets



Approved by Factory Mutual Laboratories for dispensing viscous flammable liquids from horizontally racked 55-gal. drums.

Has 3/4-inch pipe thread which fits standard steel drums. Heavy cast bronze construction. Metal-to-metal seat; no leather, rubber, fiber, or composition washers to wear out, causing leakage.

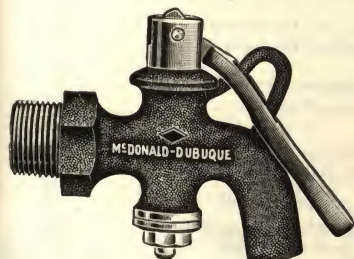
Closes automatically when handle released. Can be padlocked.

Standard package, 1; weight, 16 ounces.

No. 269-G.....each \$3.75

No. 11001 McDonald Lock Lever Oil Faucets

For Steel Oil Barrels and Drums



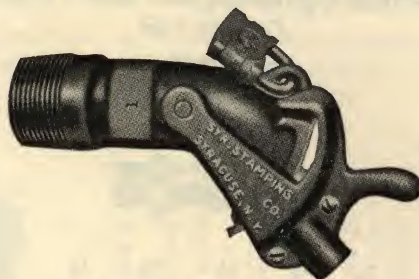
For use with gasoline or other liquid petroleum products.

Made of brass with rough plain bibb.

Can also be furnished with hose end at slight additional charge.

Size.....inches	1/2	5/8	3/4	1	1 1/4	1 1/2
No. 11001.....each	\$1.30	1.37	1.51	2.40	5.18	5.86
I.P.T. Connection.....inches	..	3/4	3/4	..	..	..

Syraco Perfection Lock Fast Gates



Gray iron, japanned finish.

Style A with Wood Thread

16 Threads per Inch

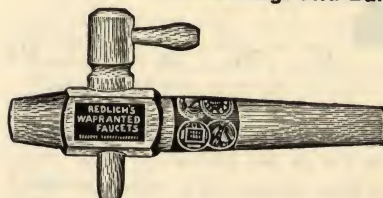
No.....	50	51	52	53	54	55
Per Dozen.....	\$21.50	22.10	27.00	29.30	31.00	39.50
Size.....in.	1/2	3/4	1	1 1/4	1 1/2	2
Wt. Per Doz.....lb.	17	22	29	35	43	52

Style E with U.S. Standard Pipe Thread

No.....	70	71	72	73	74	75
Per Dozen.....	\$21.50	22.10	27.00	29.30	31.00	39.50
Size.....in.	1/2	3/4	1	1 1/4	1 1/2	2
Wt. Per Doz.....lb.	17	22	29	35	43	52

Redlich Wooden Cork Lined Faucets

For Kegs and Barrels



A rugged and durable faucet made of selected hard wood, which has been saturated in a protective solution.

Key turns smoothly in an opening which is permanently sealed with a leakproof cork lining.

Packed bulk in bags.

No.	Length Inches	Bore Inches	Fits Hole Size Inches	No. Doz. per Pkg.
00	4	1/4	9/16 to 1 1/16	36
0A	5 1/4	1/4	23/32 to 3/4	36
0	6 1/2	5/16	11/16 to 7/8	36
1	8	3/8	13/16 to 1	30
2	8 1/2	3/8	15/16 to 1 1/8	30
3	9	7/16	1 1/16 to 1 1/4	24
4	9 3/4	7/16	1 to 1 1/4	24
5	10 1/2	1 1/2	1 1/16 to 1 5/8	12
6	11	1 1/2	1 1/8 to 1 5/8	12

No. 4289 Allenco Sillcock Brass Lawn Faucets



Angle pattern. Cast brass. Nickel plated. Removable wheel handle.

Has 3/4-inch male hose thread outlet.

Shipping weight, 1/2 dozen, 13 lb.

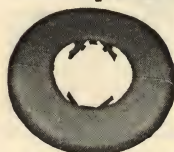
No. 4289, 1/2-Inch Inlet.....each \$2.30

No. 4289, 3/4-Inch Inlet.....each 2.30

Keys.....each .26

No. 10 B & C Floor and Ceiling Plates

Nickel-plated or chromium-plated steel.



Size In.	Each	Size In.	Each	Size In.	Each
1 1/4	\$.30	1 1/4	\$.35	3 1/2	\$1.00
3/8	.30	1 1/2	.38	4	1.25
1/2	.30	2	.45	4 1/2	1.50
3/4	.30	2 1/2	.65	5	1.75
1	.32	3	.80	6	2.00

No. 7000 Compression Plain Faucets For Iron Pipe



Size.....in.	3/8	1/2	*5/8	3/4	1	1 1/4
Rough.....ea.						
Rough N.P.....ea.						
Finished.....ea.						
N.P.....ea.						
C.P.....ea.						

*Has 5/8 inch body but with 3/4 inch I.P.S. thread on shank.

No. 7001 Compression Hose Faucets For Iron Pipe



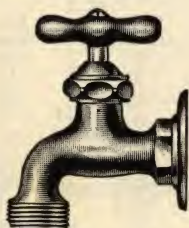
Size.....in.	3/8	1/2	*5/8	3/4	1	1 1/4
Rough.....ea.						
Rough N.P.....ea.						
Finished.....ea.						
N.P.....ea.						
C.P.....ea.						

*Has 5/8 inch body but with 3/4 inch I.P.S. thread on shank.

Compression Faucets Solid Female Flange—For Iron Pipe



No. 7020, Plain End



No. 7021, Hose End

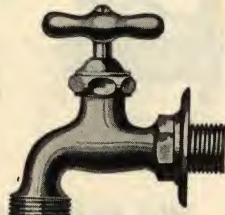
Size, I.P.T.....inches	1/2	3/4	1/2	3/4
Polished.....each				
Nickel-Plated.....each				
Chromium-Plated.....each				

Compression Faucets

Solid Male Flange For Iron Pipe



No. 7019, Plain End



No. 7022, Hose End

Size I.P.T.....inches	1/2	3/4	1/2	3/4
Finished.....each				
Nickel-Plated.....each				
Stuffing Box.....add				
Four-Ball China Indexed Handle.....add				
Full China Cross Handle.....add				

No. 4170 Johnson Improved Double Cone Faucet Seat Dressers



For reseating faucets, basin cocks, compression valves, etc. Can be used on inside or outside threaded fittings. Four cutters with each dresser.



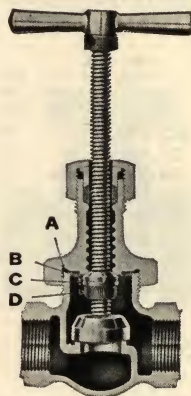
Cutters, sizes 1/2, 5/8, 3/4 and 7/8 OD inch diameter.

Packed one in a box. Weight per dozen, 8 pounds.

No. 4170.....each

O'Malley Valve Reamers

Red Head, Automatic



Automatic feed, no guides, no chatter. Merely turn the handle—reaming perfectly smooth seat.

This reamer has several features of construction, as shown by the illustration—(A) The bonnet is screwed part way on, and rests on top of the automatic feed; (B) Centering cone is of brass; (C) Reamer-fibre; (D) Adjustable nut.

For 3/8, 1/2, 5/8 and 3/4-inch faucets, built-in-tubs and showers and 1/2, 3/4 and 1-inch flat seat, all makes of valves.

Red Head.....each \$3.90

Large Valve Reamers

For 1 1/4 to 2-inch valves.

Handle Complete.....each \$3.65

Combination Cutters

1-Inch Flat/1 1/4 Conical 45 Degrees.....each	\$5.02
1 1/4-Inch Flat/1 1/2 Conical 45 Degrees.....each	5.80
1 1/2-Inch Flat/2 Conical 45 Degrees.....each	7.79
2-Inch Flat/2 1/2 Conical 45 Degrees.....each	9.10

Complete Kits

For both conical and flat seat, 3/8 to 2-inch.

Packed in a sturdy wood box.

Complete Kit (12 Cutters).....each \$38.50

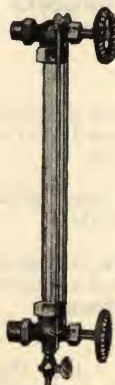
Brass Water Gauges

Iron Wheels

No. 624, for 100 Pounds
Working Pressure

No. 610, Medium, for 175 Pounds
Working Pressure

Size.....inches	1/2	3/4
No. 610, Rough.....each	\$5.50	\$8.00
No. 624, Rough.....each	3.00	.....
Size of Glass.....inches	5/8x12 3/4	3/4x16
Center to Center of Cocks...in.	14	18



No. 624



No. 610

Standard Gauge Glasses

PER DOZEN EXTERNAL DIAM., IN.				PER DOZEN EXTERNAL DIAM., IN.				PER DOZEN EXTERNAL DIAM., IN.			
Lgth. In.	1/2	5/8	3/4	Lgth. In.	1/2	5/8	3/4	Lgth. In.	1/2	5/8	3/4
8	\$3.65	\$4.65	\$5.45	17	\$6.95	\$8.80	\$10.35	36	\$14.65	\$18.55	\$23.10
9	4.00	5.10	5.95	18	7.35	9.30	10.90	42	17.30	21.80	25.95
10	4.35	5.55	6.45	19	7.70	9.75	11.70	48	20.15	25.50	29.95
11	4.75	6.00	7.00	20	8.05	10.25	12.25	54	23.35	29.60	34.55
12	5.15	6.40	7.55	21	8.45	10.75	12.85	60	26.30	33.30	39.15
13	5.45	6.85	8.05	22	8.85	11.30	13.50	66	29.70	37.60	44.00
14	5.75	7.35	8.60	23	9.25	11.80	14.10	72	33.00	41.90	48.95
15	6.15	7.80	9.10	24	9.65	12.30	14.65				
16	6.60	8.30	9.75	30	12.00	15.20	18.35				

Recommended working pressures per square inch: up to 30 inches, 200 pounds; 31-40 inches, 180 pounds; 41-50 inches, 160 pounds; 51-60 inches, 130 pounds; 61-70 inches, 100 pounds.
Intermediate lengths and longer lengths are also available. Prices upon application.

Rubber Gauge Glass Washers



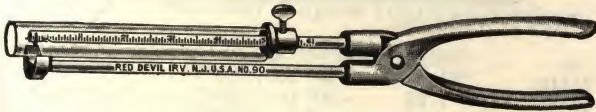
No. 2011, Square



No. 689, Round

Square or round, in 1/2, 5/8 and 3/4 inch sizes.

No. 90 Red Devil Gauge Glass Cutters



For cutting glass tubing up to 6 inches in length.
Features special, plier-type handles for applying and holding pressure.

Rod is scaled in increments of 1/16 inches.
Furnished with No. 42S Red Devil replaceable wheel, 5/32 inch in diameter.

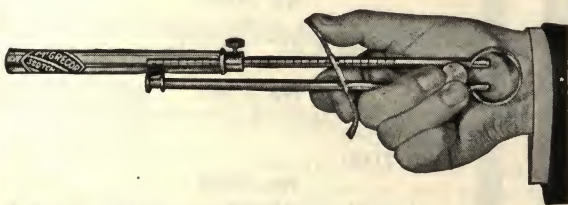
Overall length, 13 inches.

Standard package, 1.

Weight, 1 pound.

No. 90.....each \$2.40

Chesterton Gauge Glass Cutters



A handy nickel-plated tool with a sliding lever that can be placed close to the work to obtain more power. Steel cutting wheel.

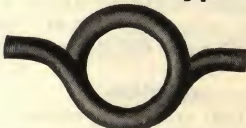
Individually boxed and packed in cartons containing 1/2 dozen or dozen boxes.

Shipping weight per dozen, 4 7/8 pounds.

Each.....\$3.50

Extra Cutter Wheels and Pins.....per dozen 4.00

Steam Gauge Syphons



Connection size, 1/4 inch. Length, 8 inches.

Steel.....each \$8.00
Brass.....each 1.80

No. 600 Paine Hanger Rings and Bolts

For supporting pipe, conduit and armored cable.
Equipped with precision threaded bolt & nut.
Pipe or conduit size marked on each ring.



Ring or Pipe Size In.	Per 100	Width Steel In.	Gage Steel No.	Bolts In.	Std. Pkg.	Wt. Lb. per 100
3/8	\$6.30	1/2	16	3/16 x 3/4	*50	4
1/2	8.75	7/8	16	1/4 x 3/4	*50	9
3/4	8.75	7/8	16	1/4 x 3/4	*50	10
1	10.30	7/8	16	1/4 x 3/4	*50	12
1 1/4	11.00	7/8	16	1/4 x 3/4	*50	13
1 1/2	11.60	7/8	16	1/4 x 3/4	*50	15
2	13.40	7/8	16	1/4 x 3/4	*25	25
2 1/2	20.85	1 1/8	14	5/16 x 3/4	*25	32
3	23.70	1 1/8	14	5/16 x 3/4	†25	37
3 1/2	25.50	1 1/8	14	5/16 x 3/4	†25	41
4	28.60	1 1/8	14	5/16 x 3/4	†25	45
5	33.40	1 1/8	14	5/16 x 3/4	†25	53
6	37.90	1 1/8	14	5/16 x 3/4	†25	64
8	125.50	1 3/4	11	3/8 x 1	†25	125

*Packed in boxes. †Packed in bags.

No. 500 Paine Perforated Hanger Iron



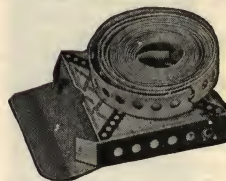
For supporting pipe, cable, conduit, fluorescent lighting fixtures and many other devices.

Special perforations or sizes can be furnished.

Packed in 10 feet, straight lengths; 100 feet to bundle.

No.	00	0	1	2	3	4
Black...1000 ft.	\$46.25	52.50	58.50	70.75	113.50	126.50
Galv....1000 ft.	\$92.50	102.25	117.00	141.50	227.00	253.00
Width.....in.	3/4	3/4	7/8	1	1 1/8	1 1/4
Gage.....	18	16	16	14	12	12
Size Bolt....in.	1/4	1/4	1/4	5/16	3/8	3/8
Ctr. to Ctr. of Hole.....in.	1/2	1/2	1/2	5/8	3/4	3/4
Safe Load...lb.	520	540	685	975	1350	1580
Weight per 1000 Ft....lb.	102	130	160	250	340	380

Paine Coiled Perforated Hanger Iron



Bolt size 1/4-inch; hole centers 1/2-inch; safe load 500 pounds.

Packed 24 individually boxed 10 foot coils in a carton.

Weight, 20 pounds per carton.

Per 10-Foot Coil.....\$3.39

Galvanized Pipe Straps



Size.....inches	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Per Pound.....	90	50	45	30	17	13	11	7
Approx. No. per Lb.								

Barrett Flat Head Pipe Hanger Screws



Cold rolled steel, black finish.

Diameter.....inches	1/4	5/16	3/8	1/2
Per 100.....	\$8.00	10.00	12.00	20.00
Length Over All.....inches	3	3 1/2	4	4 1/2
Ship. Wt., per 100.....pounds	3 3/4	5 1/2	9 1/2	19 1/2

No. 1DP Marsh Standard Single Spring Pressure Gauges

Drawn Plain Case—Plain Slip Ring

For steam, water, air, gas or any pressure medium which will not deteriorate brass. Dial sizes 2 and 2½ inches available with ⅛ or ¼-inch N.P.T. male bottom connection; 3½ and 4½-inch dial sizes have ¼-inch connection only. Black steel case.

Standard dial ranges from 15 to 600 pounds. Without cock.



Size Dial In.	Black Ring Each	Nickel Plated Ring Each	Chrome Plated Ring Each	Wt. Lb.
2	\$2.86	\$3.38	\$3.64	1
2½	3.38	3.90	4.16	1
3½	4.42	5.20	5.46	1.5
4½	5.46	6.24	6.50	1.5

No. 2DP Marsh Standard Vacuum Gauges

Drawn Plain Case—Plain Slip Ring

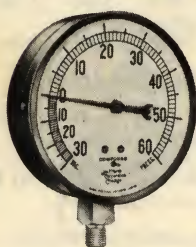


For any source of vacuum which will not deteriorate brass. Standard dial graduation to 30-inch mercury vacuum. Other ranges or combination dials, special. Where instrument is subjected to excessive pulsation or vibration, this gauge should not be installed, but vacuum gauge of heavy construction will be furnished on special order. Black steel case; without cock. For back connection, add 52 cents.

Dial Size.....inches	2	2½	3½	4½
No. 2DP, Black Ring.....each	\$2.86	\$3.38	\$4.42	\$5.46
No. 2DP, N.P. Ring.....each	3.38	3.90	5.20	6.24
No. 2DP, C.P. Ring.....each	3.64	4.16	5.46	6.50
Male Btm. Conn.....inches	⅛, ¼	⅛, ¼	¼	¼

No. 3DP Marsh Standard Compound Pressure and Vacuum Gauges

Drawn Plain Case—Plain Slip Ring



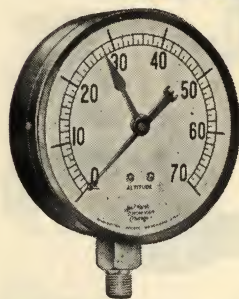
For indication of both pressure and vacuum on same instrument where pressure medium will not deteriorate brass. Furnished standard with dial graduated 15, 30, 60, 100, 150, 200, or 300 lb. press. and 30-in. vacuum. Black steel case, plain black ring. Without cock. Install syphons under all gauges on steam service. Black steel case.

Sizes 2 and 2½ with ⅛-inch N.P.T. male bottom connection; 3½ and 4½-in. sizes, ¼-in. connection only.

Size Dial.....inches	2	2½	3½	4½
No. 3DP, with Black Ring.....each	\$3.64	\$4.16	\$5.20	\$6.24
No. 3DP, with N-P Ring.....each	4.16	4.68	5.98	7.02
No. 3DP, with C-P Ring.....each	4.42	4.94	6.24	7.28

No. 4DP Marsh Standard Altitude Gauges

Drawn Plain Case—Plain Slip Ring



For indicating height of water in tanks, reservoirs, standpipes, etc.

Has dial graduation to 70-foot height of water. Maximum dial graduation should always be at least double highest elevation to be shown on instrument. In addition to usual black indicating hand, equipped with red hand which is adjustable so that it may be set by user at height to be maintained. Has black steel case. N.P.T. conn., ¼ in.; for back connection, add 52 cents.

Size Dial.....inches	3½	4½
No. 4DP, with Black Ring.....each	\$5.20	\$6.24
No. 4DP, with Nickel Plated Ring.....each	5.98	7.02
No. 4DP, with Chrome Plated Ring.....each	6.24	7.28

Taylor Etched-Stem Thermometers

Standard Quality

All these thermometers are for full immersion except No. 21242, which is for 3-inch immersion.

No.	Each	Approximate Range	Divisions	Length Inches
21230	\$2.05	—40° to +120°F.	1°	12
21232	2.05	0° to 220°F.	2°	12
21234	2.05	30° to 300°F.	2°	12
21236	2.60	30° to 400°F.	2°	14
21238	3.10	30° to 600°F.	2°	16
21240	3.60	30° to 750°F.	2°	16
21242	6.20	100° to 950°F.	5°	16

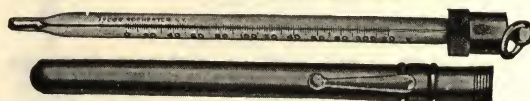
Commercial Quality

Mercury filled. Calibrated for full immersion.

No.	Each	Approximate Range	Divisions	Length Inches
6099	\$1.70	—30° to +130°F.	2°	12
6100	1.70	0° to 220°F.	2°	12
6101	1.85	30° to 300°F.	2°	12
6102	2.05	30° to 400°F.	2°	14
6103	2.75	30° to 650°F.	2°	16

Also available in Centigrade scale in corresponding ranges. When ordering designate by adding C to No.

In Pocket Carrying Case



Weight, 14 ounces.

No.	Each	Approximate Range	Divisions	Length Inches
21410	*\$1.65	—30° to +120°F.	2°	5½
21412	† 1.65	—50° to +120°F.	2°	5½
21418	2.05	0° to 220°F.	2°	5½

*Mercury filled Binoc-tubing. †Red-liquid filled Binoc-tubing.

Taylor Asphalt-Testing Thermometers

No. 21582

Length, 16 inches; in nicked armor; metal plated glass bulb; temperature range, 100° to 600°F. in 5° divisions.

No. 21582.....each \$6.90

No. 21583

Extra engraved thermometer for No. 21582.

No. 21583.....each \$4.40

No. 21588

Same as No. 21582 except temperature range is 200° to 750°F.

No. 21588.....each \$8.10

No. 21589

Extra engraved thermometer for No. 21588.

No. 21589.....each \$5.60

No. 21594

Pocket thermometer; length, 6 inches; in nicked case with pocket clip; temperature range, 100° to 400° F. in 5° divisions.

No. 21594.....each \$3.70

No. 21595

Extra engraved thermometer for No. 21594.

No. 21595.....each \$3.15

No. 21560

Length, 10 inches; nicked armor case; steel chamber protects bulb; approximate temperature range, 50° to 450°F. in 5° divisions.

No. 21560.....each \$5.60

No. 21566

Same as No. 21560 except approximate temperature range is 200° to 650°F.

No. 21566.....each \$6.55



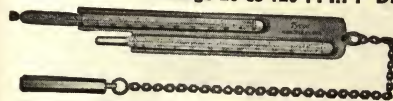
No. 21594



No. 21560

No. 1323 Taylor Sling Psychrometers

Range 20 to 120°F. In 1° Divisions

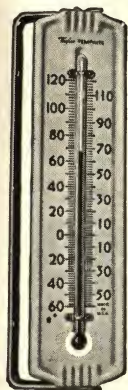


Two 5-inch engraved stem thermometers mounted on an aluminum frame.

Packed 1 in a box with leather case.

No. 1323; Weight, 5 Ounces..... each \$9.00
Extra Wicks..... per dozen .75

No. 5316 Taylor Temprite Window Thermometers



Scale is 8½x2 inches, white vitreous enameled; octagonal design.

Flange and guard protect tube and bulb.

Adjustable mounting bracket.

Triple fired, with numerals and graduations fired in.

No. 5316
Per Dozen \$24.00
Approx. Temperature Range.. -60 to 120°F.
Packed in individual boxes, 12 boxes to a carton.

Weight per carton, 4½ pounds.

No. 5127 Taylor Utility Outdoor Thermometers



A rugged wall thermometer with an easy reading 8½x2-inch vitreous enameled scale.

Bold black figures and graduations are fired in for permanence.

No. 5127
Per Dozen \$24.00
Size..... 8½ x 2
Approx. Temperature Range.. -50 to 120°F.
Weight per Dozen... 4 pounds

No. 404 Indoor-Outdoor Thermometers

A thermometer which is located indoors and yet accurately indicates the outdoor temperature.

A small metal bulb is located outside the window and connected to the thermometer by means of extremely fine tubing.

Simply and permanently installed in a few moments.

Scale is black and silver and has twin thermometers, showing outdoor temperature and also room temperature.

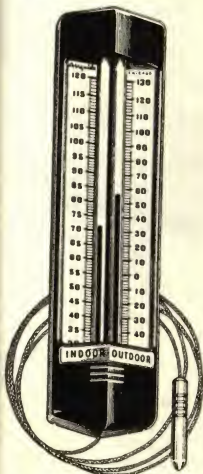
Black bakelite case, chrome trim.

Height, 9½ inches. Width, 2¼ inches.

Packed individually.

Shipping weight, 3 pounds.

No. 404..... each \$7.50



No. 5126 Taylor Indoor Wall Thermometers



A modernistic, accurate wall thermometer that is a decorative as well as a practical guide to healthful room temperatures.

Hand-rubbed, walnut finished 6-inch thermometer back with black figured and graduated satin finished brass scale.

Permacolor tube with magnifying lens for easy reading.

Packed 1 in a box, 6 to a carton.

Shipping weight per carton, 2½ pounds.

No. 5126..... each \$1.75

No. 5304 Taylor Window Thermometers



The 10-inch ivory vitreous-enameled back has black figures and graduations, fired in for permanence, and contrasting gray border.

Outdoor temperature range.

Fenestrated back allows light to shine through the red-liquid-filled magnifying glass tube, making it easy to read outside temperature either in daylight or at night from inside a lighted room.

Chromium-plated mounting bracket and fittings.

Packed 1 in a box, 6 to a carton.

Weight each, 3 pounds.

No. 5304..... per dozen \$48.00

No. 5538 Taylor Hampton Humidiguides

With Thermometer



A direct reading hygrometer for measuring moisture content of air.

Of modern design in a molded brown case, 3¾x5¾x1½ inches.

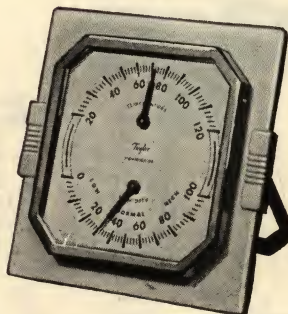
Ivory dial with black figures and graduations. Red pointer.

Indoor permacolor thermometer to match, shows the temperature.

Packed 1 in a box.

No. 5538..... each \$6.00

No. 5546 Ashton Humidiguides



A combination humidiguide and thermometer. Ivory-finish dial, with black wording, figures, and graduations, is inset in molded ivory-finish case. Brass bezel, easel back, 3½ inches square. Black pointer at top shows temperature; red pointer at bottom indicates humidity.

Each packed in a box, 12 in a carton.

Weight, 4 ounces each.

No. 5546..... per dozen \$27.00

Imperial Brass Compression Fittings



No. 60-F Sleeves

O.D. of Tube Inches	Per 100	Std. Pkg.
1/8	\$4.00	50
5/32	5.00	15
3/16	4.00	100
1/4	4.00	100
5/16	5.00	100
3/8	5.50	50
7/16	12.00	15
1/2	15.50	15
5/8	24.00	10
3/4	36.00	..

No. 63-F Checks



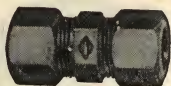
O.D. of Tube Inches	*Per 100	Pipe Thread Inches	Std. Pkg.
1/8	\$72.00	1/8	5
3/16	66.00	1/8	5
1/4	67.00	1/8	5
5/16	72.00	1/8	5
3/8	109.00	1/4	5
1/2	225.00	3/8	5

No. 61-F Nuts



O.D. of Tube Inches	Per 100	Std. Pkg.
1/8	\$8.50	15
5/32	13.00	10
3/16	9.00	15
1/4	9.50	25
5/16	13.00	25
3/8	17.00	15
7/16	30.00	10
1/2	37.00	10
5/8	55.00	5
3/4	78.00	..

No. 62-F Unions



O.D. of Tube Inches	*Per 100	Std. Pkg.
1/8	\$43.00	10
5/32	51.00	5
3/16	42.00	10
1/4	46.00	15
5/16	56.00	15
3/8	70.00	10
7/16	131.00	5
1/2	170.00	10
5/8	295.00	5
3/4	379.00	..

No. 68-F Connections



O.D. of Tube Inches	*Per 100	Pipe Thread Inches	Std. Pkg.	O.D. of Tube Inches	*Per 100	Pipe Thread Inches	Std. Pkg.
1/8	\$28.00	1/8	10	3/8	\$98.00	3/8	5
3/16	26.00	1/8	15	3/8	157.00	1/2	5
1/4	30.00	1/8	25	7/16	107.00	1/4	5
5/16	37.00	1/8	25	1/2	118.00	3/8	10
3/8	44.00	1/4	15	5/8	170.00	1/2	5
1/2	55.00	1/8	10	3/4	242.00	1/2	..
5/8	56.00	1/4	15	..	.....	..	..

*Prices include nuts and sleeves.
†The same tubing size is furnished in various iron pipe thread sizes. This size is standard.

Imperial Brass Compression Fittings

No. 65-F Elbows



O.D. of Tube Inches	*Per 100	Std. Pkg.
1/8	\$72.00	5
3/16	66.00	5
1/4	67.00	10
5/16	81.00	10
3/8	109.00	10
7/16	168.00	5
1/2	197.00	5
5/8	347.00	5
3/4	442.00	..

No. 69-F Elbows



O.D. of Tube Inches	*Per 100	Pipe Thread Inches	Std. Pkg.
1/8	\$42.00	1/8	10
3/16	43.00	1/8	15
1/4	46.00	1/8	25
5/16	57.00	1/8	15
3/8	56.00	1/8	25
7/16	72.00	1/4	15
1/2	81.00	1/8	10
5/8	81.00	1/4	15
3/4	144.00	3/8	5
1/2	242.00	1/2	5
1/2	157.00	1/4	5
1/2	183.00	3/8	10
1/2	269.00	1/2	5
5/8	274.00	1/2	5
3/4	418.00	1/2	..

No. 70-F Elbows



O.D. of Tube Inches	*Per 100	Pipe Thread Inches	Std. Pkg.
1/8	\$59.00	1/8	5
3/16	46.00	1/8	5
1/4	52.00	1/8	10
5/16	66.00	1/8	10
3/8	106.00	1/4	5
7/16	164.00	1/4	5
1/2	183.00	3/8	5

No. 73-F Elbow Checks



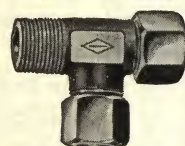
O.D. of Tube Inches	*Per 100	Pipe Thread Inches	Std. Pkg.
1/8	\$82.00	1/8	5
3/16	85.00	1/8	5
1/4	91.00	1/8	5
5/16	103.00	1/8	5
3/8	131.00	1/4	5

No. 64-F Tees



O.D. of Tube Inches	*Per 100	Std. Pkg.
1/8	\$85.00	5
3/16	79.00	5
1/4	90.00	10
5/16	99.00	10
3/8	149.00	5
7/16	222.00	5
1/2	334.00	5
5/8	589.00	5
3/4	651.00	..

No. 71-F Tees



O.D. of Tube Inches	*Per 100	Pipe Thread Inches	Std. Pkg.
1/8	\$85.00	1/8	5
3/16	72.00	1/8	5
1/4	75.00	1/8	10
5/16	92.00	1/8	10
3/8	120.00	1/4	5
7/16	295.00	1/4	5
1/2	313.00	3/8	5
5/8	383.00	1/2	5
3/4	521.00	1/2	..

No. 72-F Tees



O.D. of Tube Inches	*Per 100	Pipe Thread Inches	Std. Pkg.
1/8	\$85.00	1/8	5
3/16	72.00	1/8	5
1/4	75.00	1/8	10
5/16	92.00	1/8	10
3/8	120.00	1/4	5
7/16	295.00	1/4	5
1/2	313.00	3/8	5
5/8	383.00	1/2	5
3/4	521.00	1/2	..

No. 76-F Male and Female Tees



O.D. of Tube Inches	*Per 100	Pipe Thread Inches	Std. Pkg.
1/8	\$85.00	1/8	5
3/16	81.00	1/8	5
1/4	85.00	1/8	5
5/16	98.00	1/8	5
3/8	138.00	1/4	5

*Prices of fittings include nuts and sleeves.

Imperial Flared Tube Fittings For Connecting Brass and Copper Tubing



Complete Unit

Union Nuts



No. 41F

No. 41FS

No. 41-F, Standard Length

Std. Lgth. In.	*Per 100	O.D. Tube In.	Std. Pkg.	Wt. Lb. Per 100
3/4	\$18.00	1/8	10	1 1/2
13/16	19.00	3/16	15	1 3/4
15/16	22.00	1/4	25	3 1/2
1 1/8	30.00	3/8	5	8
1 1/16	46.00	1/2	15	5
1 1/2	71.00	3/4	5	10
1 5/8	84.00	1	10	12
1 7/8	136.00	1 1/8	5	20 1/2
2 1/16	183.00	1 1/4	..	30 1/2
2 3/16	569.00	1 1/2	..	48

No. 41-FS, Short Length

Std. Lgth. In.	*Per 100	O.D. Tube In.	Std. Pkg.	Wt. Lb. Per 100
1/2	\$16.00	1/8	10	3/4
5/8	17.00	3/16	15	1 1/4
3/4	21.00	1/4	25	3
7/8	28.00	3/8	25	4 1/4
1	39.00	3/8	15	5 1/2
1 1/16	63.00	7/16	5	7 1/2
1 1/8	72.00	1/2	5	8 1/2
1 1/16	117.00	5/8	5	14 1/2
1 1/2	149.00	3/4	..	22 1/2
1 5/8	555.00	7/8	..	39

No. 42-F Union Couplings



O.D. of Tube Inches	*Per 100	Std. Pkg.	Wt. Lb. Per 100
1/8	\$39.00	5	2
3/16	31.00	10	2 1/2
1/4	36.00	15	3 1/2
5/16	39.00	15	5
3/8	59.00	10	9
7/16	79.00	5	12
1/2	98.00	5	14
5/8	168.00	5	21 1/2
3/4	235.00	..	37
7/8	588.00	..	55

No. 43-F Ball Checks



O.D. of Tube Inches	*Per 100	Pipe Thread In.	Std. Pkg.	Wt. Lb. Per 100
3/16	\$59.00	1/8	5	2 1/2
1/4	62.00	1/8	5	3
5/16	69.00	1/8	5	4 1/2
3/8	95.00	1/4	5	8
7/16	117.00	1/4	5	10
1/2	138.00	3/8	5	14

*Prices do not include nuts.

S.A.E. Thread Sizes

O.D. In.	Thread	O.D. In.	Thread	O.D. In.	Thread	O.D. In.	Thread
1/8	5/16-24	5/16	1/2-20	1/2	3/4-16	7/8	1 1/4-12
3/16	3/8-24	3/8	5/8-18	5/8	7/8-14	..	..
1/4	7/16-20	7/16	1 1/16-16	3/4	1 1/16-14	..	..

Imperial Flared Tube Fittings

For Connecting Brass and Copper Tubing

No. 48-F Half Union Couplings



O.D. Tube In.	*Per 100	Pipe Thrd. In.	Std. Pkg.	Wt. Lb. Per 100
1/8	\$21.00	1/8	10	2 1/2
3/16	22.00	1/8	15	2 3/4
1/4	23.00	1/8	25	3
1/4	38.00	1/4	10	5
1/4	81.00	3/8	..	9
1/4	129.00	1/2	..	11 3/4
5/16	27.00	1/8	15	4
5/16	40.00	1/4	10	6
3/8	57.00	1/8	10	6 1/2
3/8	55.00	1/4	15	7 1/4
3/8	72.00	3/8	10	10 1/2
3/8	118.00	1/2	..	14
3/8	203.00	3/4	..	21 3/4
7/16	67.00	1/4	5	8 3/4
1/2	111.00	1/4	..	10
1/2	81.00	3/8	5	11 1/2
1/2	109.00	1/2	5	16
1/2	210.00	3/4	..	23 1/2
5/8	248.00	3/8	..	16 1/2
5/8	131.00	1/2	5	18
5/8	229.00	3/4	..	25 1/2
3/4	203.00	1/2	..	27
3/4	261.00	3/4	..	31
7/8	589.00	3/4	..	40 3/4

No. 49-F Elbows



O.D. Tube In.	*Per 100	Pipe Thrd. In.	Std. Pkg.	Wt. Lb. Per 100
1/8	\$46.00	1/8	10	4
3/16	33.00	1/8	15	3 1/2
1/4	36.00	1/8	25	4
1/4	52.00	1/4	10	7
1/4	107.00	3/8	..	9
5/16	39.00	1/8	25	5 1/2
5/16	60.00	1/4	10	7
3/8	72.00	1/8	10	8 3/4
3/8	72.00	1/4	15	9 1/2
3/8	108.00	3/8	10	11
3/8	197.00	1/2	..	19 1/2
3/8	261.00	3/4	..	36
7/16	105.00	1/4	..	10 1/4
1/2	229.00	1/4	5	10
1/2	109.00	3/8	5	14
1/2	222.00	1/2	5	21
1/2	295.00	3/4	..	36 1/4
5/8	242.00	1/2	5	18 1/2
5/8	308.00	3/4	..	27 3/4
3/4	340.00	1/2	..	38 3/4
3/4	392.00	3/4	..	39 1/2
7/8	621.00	3/4	..	50

No. 50-F Elbows



O.D. In.	Thrd.	O.D. In.	Thrd.	O.D. In.	Thrd.
1/8	5/16-24	3/8	5/8-18	1 1/16	1 1/16-14
3/16	3/8-24	7/16	1 1/16-16	3/4	1 1/4-12
1/4	1/2-20	1/2	3/4-16	..	..
5/16	1/2-20	5/8	7/8-14	..	..

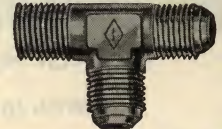
S.A.E. Thread Sizes

O.D. In.	Thrd.	O.D. In.	Thrd.	O.D. In.	Thrd.
1/8	5/16-24	3/8	5/8-18	1 1/16	1 1/16-14
3/16	3/8-24	7/16	1 1/16-16	3/4	1 1/4-12
1/4	1/2-20	1/2	3/4-16	..	..
5/16	1/2-20	5/8	7/8-14	..	..

No. 50-F Elbows

O.D. Tube In.	*Per 100	Pipe Thrd. In.	Std. Pkg.	Wt. Lb. Per 100
3/8	\$107.00	1/4	5	11
3/8	193.00	3/8	..	15
3/8	327.00	1/2	..	17
3/8	229.00	3/4	..	25
7/16	144.00	1/4	5	15
1/2	197.00	3/8	5	15
1/2	327.00	1/2	..	33 1/2
1/2	313.00	3/4	..	25
5/8	295.00	3/8	5	27
5/8	295.00	1/2	5	39
3/4	327.00	3/4	..	30
3/4	392.00	1/2	..	43

No. 51-F Tees



O.D. Tube In.	*Per 100	Pipe Thrd. In.	Std. Pkg.	Wt. Lb. Per 100
3/16	\$46.00	1/8	5	6
1/4	50.00	1/8	10	7
5/16	59.00	1/8	10	9
3/8	95.00	1/4	..	16
3/8	210.00	3/8	..	21 1/2
7/16	321.00	1/4	5	18 1/4
1/2	183.00	3/8	5	22
1/2	313.00	1/2	..	30
5/8	484.00	1/2	5	37 1/2
3/4	653.00	1/2	..	48

No. 53-F 45° Tees



O.D. Tube In.	*Per 100	Pipe Thrd. In.	Std. Pkg.	Wt. Lb. Per 100
1/8	\$109.00	1/8	5	5 3/4
3/16	114.00	1/8	5	6
1/4	122.00	1/8	5	7 1/2
5/16	190.00	1/8	5	7 3/4
3/8	216.00	1/4	5	16

No. 54-F 45° Elbows



O.D. Tube In.	*Per 100	Pipe Thrd. In.	Std. Pkg.	Wt. Lb. Per 100
3/16	\$69.00	1/8	5	4
1/4	72.00	1/8	5	4 1/2
5/16	78.00	1/8	5	5
3/8	85.00	1/4	5	8
1/2	132.00	3/8	5	12

No. 55-F Elbows



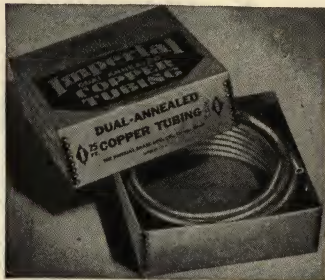
O.D. Tube In.	*Per 100	Pipe Thrd. In.	Std. Pkg.	Wt. Lb. Per 100
1/4	\$44.00	1/8	10	5 1/2
5/16	46.00	1/8	10	6 1/2
3/8	66.00	1/8	5	9 1/2
7/16	111.00	1/8	5	17 3/4
1/2	118.00	1/8	5	18
5/8	257.00	1/2	5	29 1/2
3/4	366.00	..	..	40

*Nuts not included.

Imperial Dual-Annealed Copper Tubing

For automotive and general use. Tubing is seamless, de-oxidized, bright annealed, and cold drawn from copper. Uniform temper; free scale, slivers, etc.

Packed one exact 25-foot coil in a carton.



O.D. In.	Wall Gage In.	Approx. Ft. per Lb.	Wt. Lb. per Coil
1/8	.030	27.7	.867
5/32	.030	20.6	1.150
3/16	.030	16.4	1.440
1/4	.030	11.8	2.010
5/16	.032	9.1	2.725
3/8	.032	7.5	3.350
7/16	.032	6.3	3.950
1/2	.032	5.5	4.550
5/8	.035	4.3	6.275
3/4	.035	3.6	7.625

Imperial Heavy Duty Air Nozzles

With Interchangeable Noses



A heavy duty air nozzle designed for hard use and long life in machine shops, steel mills, foundries, forging plants, factories, garages, repair shops, etc.

Made of heat-treated duraluminum forging, strong, durable, lightweight. Delivers full blast of air at the touch of button. Button is guarded against damage. Safe, comfortable grip does not tire the hand.

Has 4 quickly interchangeable noses: general purpose; adjustable nose where blast must be controlled; wide, flat nose; and long nose Neoprene washer withstands oils and acids in air. Self-cleaning seat. Leakage is prevented. Body has flats for wrench. For all air lines. Has 1/4-inch female iron-pipe thread. Loop for hanging up.

No.	Each	Description	Wt. Oz.
142-A	\$2.85	Body with General Purpose Nose.....	5 1/2
143-A	4.60	Body with Complete Set of 4 noses....	8 1/2
141-A	2.45	Body Only; Fits All Noses with 1/2-Inch Std. Pipe Thread; 1/4-Inch Female Iron Pipe Thread.....	4 1/2
39022	.60	General Purpose Nose.....	1
39023	.95	Long Nose, Can be Bent, for Recesses, Pockets, etc.....	1 1/2
39026	.85	Adjustable Nose for High Pressure Air Lines or For Use Where Air Blast Must be Controlled.....	1
39029	.60	Wide, Flat Nose, for Broad Surfaces...	1 1/2
39035	.20	Neoprene Washer.....	..

Norgren Flex-Tip Air Blow Guns

(Formerly Heco)



A lightweight indestructible gun, with plated, hardened steel nose and flexible neoprene hose.

Until gun is flexed, entire air line pressure is on valve assembly forcing it against valve seat, forming a perfect seal.

Blow gun is operated by flexing. Any desired amount of air can be obtained—from a gentle puff to a strong blast.

Individually boxed, 12 in a carton.

No.	A-1	A-2
Each.....	\$1.50	2.50
I.P.T.....	inches 1/4	1/2
Weight per Dozen.....	pounds 2 1/2	3 1/2

Boss Self-Honing Air Valves

Tested to 200 Pounds Air Pressure



For use on pipe lines, hose lines, etc. Self-honing feature. Firmly seats against steel or malleable iron body by spring tension, bronze plug is automatically honed against the harder valve body as valve is used.

A full flow opening extends through valve body and plug, providing a clear passageway which offers no restriction to the flow. The result is greater capacity and no friction loss. Valve opens or closes by a quarter-turn of the handle.

Forged steel handle anchored to bronze valve plug within valve body on 3/4 to 1 1/2 inch valves.

Size I.P.T. In.	Description	Male Both Ends		Female Both Ends	
		No.	Each	No.	Each
1/4	Steel.....	V-1			\$2.90 .6
3/8	Steel.....	V-11			2.90 .6
1/2	Malleable Iron.....	V-22	\$3.55 1.4	V-33	3.55 1.6
3/4	Malleable Iron.....	V-44	5.00 1.8	V-55	5.00 2.4
1	Malleable Iron.....	V-66	5.70 2.5	V-77	5.70 2.9
1 1/4	Malleable Iron.....			V-99	7.00 2.9
1 1/2	Malleable Iron.....			V-119	8.50 3.
2	Malleable Iron.....			V-139	13.00 4.4
3/4	Drop Forged Steel..	D-44	9.00 1.5		

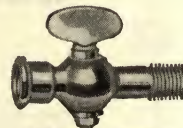
Crane Brass Gauge Cocks



Male
No. 708, Tee Head



Female
No. 712, Tee Head

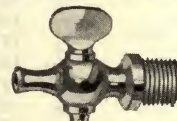


Male and Female
No. 744, Tee Head

Size.....	inches	1/8	1/4	3/8	1/2
No. 708.....	each	\$1.40	\$1.60		
No. 712.....	each	1.60	1.90	\$2.20	
No. 744.....	each		2.00		

Crane Brass Pet Cocks

No. 700, Tee Head



Size.....	inches	1/8	1/4	3/8	1/2
No. 700, Tee Head.....	each	\$1.10	1.20	1.30	1.50

No. 702, Lever Handle



Size.....	inches	1/8	1/4
No. 702, Lever Handle.....	each	\$1.40	1.50

Lincoln Kleenseal Surface—Check Fittings

Used on automobiles, farm implements, trucks, tractors and industrial machinery. Ball in head of fitting seals out dirt and keeps grease in. Insures more volume and less resistance. Can be securely contracted by any commercial

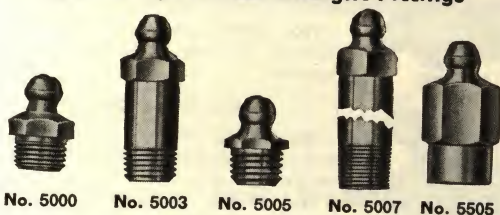
Bullneck Type

hydraulic coupler.

All fittings have spring and ball check unless otherwise stated in tables.

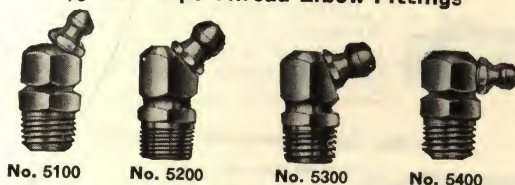
Hardened for additional protection from wear and damage.

1/8-Inch Pipe Thread Straight Fittings



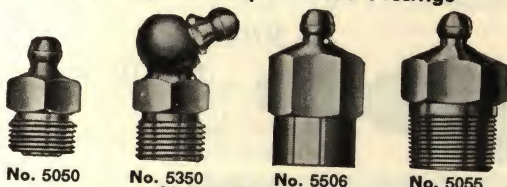
No.	Per 100	Description	Overall Length Inches
5000	\$3.96	Straight.....	23/32
5003	11.60	Straight.....	11/4
5005	6.55	Straight.....	21/32
5007	12.93	Straight.....	13/4
*5009	16.20	Straight.....	25/8
5505	10.40	Straight, Female Thread.....	13/32

1/8-Inch Pipe Thread Elbow Fittings



No.	Per 100	Description	Overall Length Inches
5100	\$7.87	30° Elbow.....	13/32
*5107	21.78	30° Elbow.....	23/32
5200	7.87	45° Elbow.....	11/4
5300	7.87	67 1/2° Elbow.....	23/32
*5308	13.09	67 1/2° Elbow.....	13/16
*5309	21.78	67 1/2° Elbow.....	27/8
5400	7.87	90° Elbow.....	27/32

1/4 and 3/8-Inch Pipe Thread Fittings



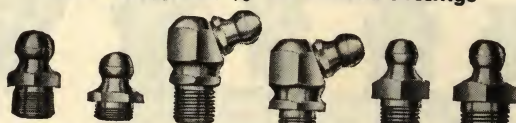
No.	Per 100	Description	Overall Length Inches
5050	\$10.12	Straight.....	15/16
5350	13.31	67 1/2° Elbow.....	13/32
5506	18.15	Straight, Female.....	13/16
5055	\$21.78	Straight.....	13/16

1/4"-28 and 1/4"-32 Thread Fittings



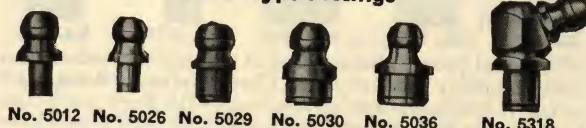
No.	Per 100	Description	Overall Length Inches
5010	\$4.62	Straight, Short Thread.....	17/32
5013	6.22	Straight, Long Thread.....	11/16
*5014	7.26	Straight, Long Thread.....	15/16
*5042	4.13	Straight, Straight Thread.....	15/32
5210	9.24	45° Elbow, Short Thread.....	7/8
*5212	9.96	45° Elbow, Long Thread.....	1
*5410	10.40	90° Elbow, Short Thread.....	25/32
*5412	10.40	90° Elbow, Long Thread.....	13/16
5016	\$6.55	Straight.....	23/32
5316	10.89	67 1/2° Elbow.....	27/32

5/16"-32, 5/16"-24, 3/8"-24 Thread Fittings



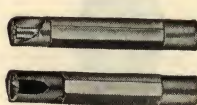
No.	Per 100	Description	Overall Length Inches
5060	\$7.59	Straight, Long Thread 5/16"-32.....	5/8
5063	7.98	Straight, Short Thread 5/16"-32.....	1/2
5360	\$12.38	67 1/2° Elbow, Long Thread 5/16"-32.....	27/32
5363	12.38	67 1/2° Elbow, Short Thread 5/16"-32.....	23/32
5061	6.88	Ford Front Spring 5/16"-24.....	11/16
5062	\$6.88	Ford Rear Spring 3/8"-24.....	11/16

Drive-Type Fittings



No.	Per 100	Description	Overall Lgth. In.	Drive Diam. In.
5012	\$4.40	Straight, No Ball Check.....	19/32	5/32
5026	4.24	Straight, No Ball Check.....	19/32	3/16
5029	6.33	Straight.....	9/16	1/4
5030	3.36	Straight, No Ball Check.....	9/16	5/16
*5031	4.24	Straight.....	19/32	3/8
5036	6.55	Straight.....	5/8	1/2
*5044	5.94	Straight, No Ball Check.....	37/64	1/4
5318	10.89	67 1/2° Elbow.....	7/8	1/4
*5331	7.98	67 1/2° Elbow.....	3/4	5/16
*5385	10.18	67 1/2° Elbow.....	13/16	3/16

Fitting Drive Tools



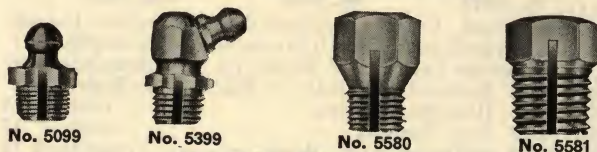
No. 11485. For installing straight drive fittings. Shipping weight, 5 oz.

No. 11485.....each \$.65

No. 11509. For installing angle drive fittings. Ship. wt., 6 1/2 oz.

No. 11509.....each \$.65

Safety Vent Fittings and Bushings



No.	Per 100	Description	Overall Length Inches
5099	\$7.98	Straight.....	23/32
5399	13.09	67 1/2° Elbow.....	25/32

1/8-Inch P.T. Male Fittings

Bushings

For use where an extension fitting is required to contact bearing to properly vent it for escape of excess lubricant.

5580 \$12.38 1/8" P.T. Female to 1/8" P.T. Male..... 3/4

5581 13.97 1/8" P.T. Female to 1/4" P.T. Male..... 3/4

7/16"-12 Wood Screw Thread Fittings



No. 5065. Straight, Overall Lgth. 25/32 In.per 100 \$7.98

No. 5365. 67 1/2° Elbow, Overall Lgth. 13/16 In.per 100 16.72

*Not illustrated. †Except as noted.

Lincoln Kleenseal Button Head Fittings

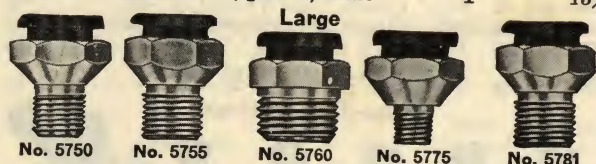
Machined from high grade steel; hardened to withstand severe usage. Accurately machined to provide a smooth surface for contact with the coupler to prevent leakage and eliminate excessive wear on the coupler packing.



Standard

For use on heavy industrial machinery.

No.	Per 100	Pipe Thread	Lgth. In.	Ship. Wt., Lb. per 100
5700	\$9.54	1/8-Inch, Male	25/32	4
5703	12.22	1/8-Inch, Female	29/32	5
5705	11.35	1/4-Inch, Male	53/64	5
5710	15.03	3/8-Inch, Male	63/64	8 3/8
5715	21.56	1/2-Inch, Male	1	13 1/2



Large

The head proper is machined in one piece; hardened and electrolytically rustproofed. Check valve is designed to permit a maximum flow of lubricant with least restriction. A long guide stem assures positive closing, and when closed, check valve end is flush with face of fitting.

No.	Per 100	Pipe Thread	Lgth. In.	Ship. Wt., Lb. per 100
5750	\$24.29	1/4-Inch, Male	17/32	11 1/4
5755	25.28	3/8-Inch, Male	19/32	12 1/4
5760	27.32	1/2-Inch, Male	11 1/16	12 1/4
5770	34.76	3/8-Inch, Male	2	21 1/4
5775	25.28	1/8-Inch, Male	1 3/32	9 1/4
5781	24.29	5/8-Inch, 18-Thread	1 9/32	12 1/4

Lincoln Fitting Bushings and Angle Bodies

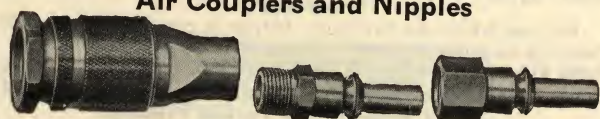


Heavy duty. Provide a volume flow of lubricant to bearing. Ball check is flush with fitting face when closed.

Bushings are 1/8-inch P.T. female by 1/4-inch male. Angle bodies are 1/8-inch P.T. female by 1/8-inch P.T. male.

No. 10461, Hexagon Bushing.....	each	\$.17
No. 10787, Face Bushing.....	each	.17
No. 20028, 45 Degree Angle Body.....	per 100	8.75
No. 20029, 90 Degree Angle Body.....	per 100	7.87

Lincoln Flex-O-Matic 3/8 and 1/2-Inch Air Couplers and Nipples



Coupler P.T. Female Inlet Nipple P.T. Male Nipple P.T. Female

Desirable where a volume flow of air is necessary. Hose can be connected to air line wherever desired with couplers at selected locations and nipples attached to inlet end of hose. Shut-off valves are not required.

3/8-Inch	
No. 818, Coupler, N.P.T. Female Inlet, Wt., 12 Oz. ea.	\$3.50
No. 11859, Nipple, N.P.T. Male, Wt., 3 Oz. ea.	.45
No. 11888, Nipple, N.P.T. Female, Wt., 3 Oz. ea.	.60
1/2-Inch	
No. 817, Coupler, N.P.T. Female Inlet, Wt., 11 Oz. ea.	3.50
No. 12252, Nipple, N.P.T. Male, Wt., 2 Oz. ea.	.45
No. 12253, Nipple, N.P.T. Female, Wt., 2 Oz. ea.	.60

Lincoln Kleenseal Adapters, Couplers and Swivels

Pin Type Adapters



No. 5889

No. 5889. For contacting pin type fittings with a push type nozzle. Shipping weight, 3 ounces. each \$1.15

No. 81004. Same as No. 5889 but without fittings. Shipping weight, 2 1/2 ounces. each \$1.00



No. 80703

Pin Type Couplers

No. 80703. With swivel. Has 1/8-inch male pipe thread connection. Shipping weight, 4 ounces. each \$1.20

No. 81285. Same as No. 80703 but with 1/8-inch female pipe thread connection. Ship. wt., 2 1/2 oz. each \$1.38

No. 11532 Pin Type Coupler Bodies



Shipping weight, 1 ounce.

No. 11532. each \$.35

No. 5845 Hydraulic Couplers



Permits quick and easy contact with Kleenseal or hydraulic fittings. Jaws can be quickly removed. Inlet threaded 1/8-inch female pipe thread. Ship. wt., 2 oz.

No. 5845. each \$.75

No. 5842 Hydraulic Couplers



Hydraulic Coupler includes ball check and has 1/8-inch I.P.T. female inlet. Shipping weight, 3 ounces.

No. 5842. each \$.85

Button Head Coupler Adapters



No. 81709 Standard. For contacting standard button head fittings with pin type coupler. Shipping weight, 5 ounces. each \$2.65

No. 81710 Large



No. 81710 Large. For contacting large button head fittings with pin type coupler. Ship. wt., 10 oz. each \$3.50

Swivels



No. 81703

No. 81703. Has 1/8-inch male pipe thread by 1/8-inch male pipe thread connections. Ship. wt., 2 1/2 oz. each \$.85

No. 81606. Has 1/8-inch female pipe thread by 1/8-inch male pipe thread connections. Ship. wt., 2 oz. each \$1.00

Lincoln Kleenseal Transfer Pumps



No. 1316

No. 1313

Equipped with bung bushings to fit 2-inch bung openings of standard 400-pound drum. Models are available with vertical handle or handle arranged at a 60° angle to pump outlet. Possible to operate pump with drum placed against wall or in corner with No. 1316.

No. 1313, Utility

For gasoline, oil, kerosene, distillates and other light fluids.

All metal piston and foot valve. Shipping weight, 7 pounds.

No. 1313. each \$7.65

No. 1316, Lubricant

For heavy and viscous lubricants. Packing type piston.

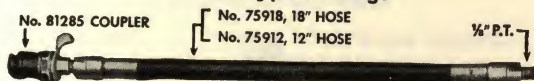
Shipping weight, 26 pounds.

No. 1316. each \$13.70

Lincoln Kleenseal Whip Hose Assemblies

10,000 Pounds Pressure—Flexible

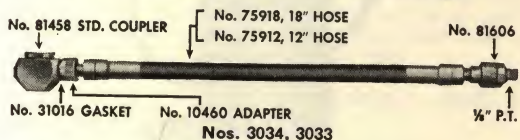
For Pin Type Fittings



Nos. 3040, 3041

No.	Each	Description	Ship. Wt. Oz.
3040	\$4.30	12-Inch Hose with Pin Type Coupler One End, 1/8-In. Male P.T. Other End.....	9
3041	4.75	18-Inch Hose with Pin Type Coupler One End, 1/8-In. Male P.T. Other End.....	10 1/2

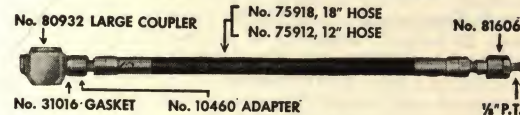
For Standard Button Head Fittings



Nos. 3034, 3033

No.	Each	Description	Ship. Wt. Oz.
3034	\$6.30	12-Inch Hose with Std. Button Head Coupler One End, 1/8-Inch Male Swivel Connection Other End.....	13
3033	6.70	18-Inch Hose with Std. Button Head Coupler One End, 1/8-Inch Male Swivel Connection Other End.....	14 1/2

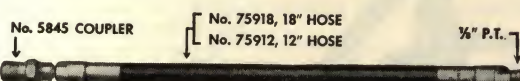
For Large Button Head Fittings



Nos. 3029, 3028

No.	Each	Description	Ship. Wt. Oz.
3029	\$7.25	12-Inch Hose with Large Button Head Coupler One End, 1/8-Inch Male Swivel Connection Other End.....	16
3028	7.65	18-Inch Hose with Large Button Head Coupler One End, 1/8-Inch Male Swivel Connection Other End.....	17 1/2

For Kleenseal or Hydraulic Fittings

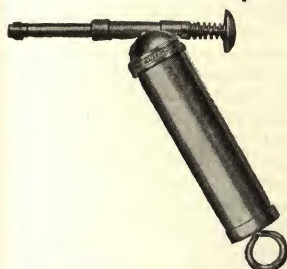


81726	\$3.30	12-Inch Hose with Hydraulic Coupler..	8 1/2
81725	3.75	18-Inch Hose with Hydraulic Coupler..	10
75912	2.64	12-Inch Hose Center, 1/8-Inch Male P.T. Connections Both Ends.....	6 1/2
75918	3.05	18-Inch Hose Center, 1/8-Inch Male P.T. Connections Both Ends.....	8

No. 5947 Lincoln Kleenseal Utility Push-Type Grease Guns

Spring Primed

Maximum Pressure, 5000 Pounds



Capacity of container, 3 ounces. For light or heavy lubricants. With Linpak nozzle for contacting Kleenseal, hydraulic or Zerk fittings. Follower rod is rigidly attached to follower assembly and its position indicates amount of lubricant in gun barrel.

Container diameter, 1 1/2 inches. Nozzle extension length, 2 1/2 inches. Gun barrel finished in dull nickel.

Shipping weight, 1 pound.

No. 5947.....each \$1.50

Lincoln Push Type Guns

Spring Primed

5000 Pounds Pressure

Standard Type — 2 1/4-Inch Barrel Diameter



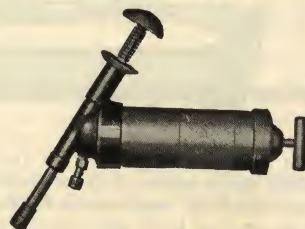
No. 1103A

For lubricating all types of machinery. Will handle heavy as well as light lubricants. Length of pumping head, 10 3/8 inches. Furnished with extension nozzle for all push type fittings.

Barrel finished in dull nickel. Gun head painted black.

No.	1101A	1103A
Each	\$4.50	5.55
Capacity.....	9 ounces	15
Length Overall.....	11 3/8 inches	15 7/8
Shipping Weight.....	4 3/4 pounds	4 3/4

Filler Type — 2 1/4-Inch Barrel Diameter



No. 1111A

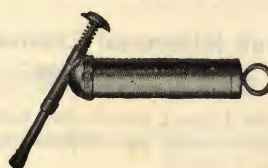
Same as the standard type, except a filler nipple is provided in the pumping head. Length of pumping head, 10 1/4 inches. Furnished with extension nozzle for all push type fittings.

Barrel finished in dull nickel. Gun head is painted black.

No.	1111A	1113A
Each	\$5.00	6.10
Capacity.....	9 ounces	15
Length Overall.....	11 3/8 inches	15 7/8
Shipping Weight.....	4 pounds	4 1/2

No. 5958 Utility Type — 1 1/2-Inch Barrel Diameter

5-Ounce Capacity



For heavy or light lubricants.

Linpak nozzle.

Overall length, 10 3/16 inches.

Length of pumping head, 6 1/2 inches.

Lubricant barrel finished in dull nickel.

Shipping weight, 1 1/4 pounds.

No. 5958.....each \$2.15

Lincoln Heavy Duty Lever Grease Guns Spring Primed— $\frac{23}{8}$ -Inch Barrel Diameter 19-Ounce Capacity



No. 1035

Provides a fast, clean method of lubricating machinery equipped with Kleenseal or hydraulic fittings.

Pin type or button head fittings may be contacted by using one of the whip hose assemblies.

Nos. 1034 and 1036 are furnished without nozzle; Nos. 1035 and 1037 with No. 5834 extension coupler for Kleenseal or hydraulic fittings.

Gun barrel is dull nickel finish.

High Pressure Type—10000 Pounds Maximum Pressure			
No.		*1034	1035
Each		\$13.80	14.75
Overall Length	inches	18	25 $\frac{1}{2}$
Shipping Weight	pounds	4 $\frac{1}{4}$	4 $\frac{1}{2}$
Volume Type—3000 Pounds Maximum Pressure			
No.		*1036	1037
Each		\$13.80	14.75
Overall Length	inches	18	25 $\frac{1}{2}$
Shipping Weight	pounds	4 $\frac{1}{4}$	4 $\frac{1}{2}$

*Gun outlet is $\frac{1}{8}$ -inch pipe thread, female.

Lincoln Standard Lever Guns $\frac{21}{4}$ -Inch Barrel Diameter—15-Ounce Capacity High Pressure Type—10000 Pounds Maximum Pressure



No. 1043B

Provides a fast and clean method of lubricating any machine or vehicle equipped with Kleenseal or hydraulic fittings. May be filled by suction and after filling the follower rod can be pushed back into the barrel.

Adapted to pin type or button head fittings by using one of the whip hose assemblies.

Nos. 1043 and 1043F are furnished without nozzle. Nos. 1043B and 1043FB are furnished with No. 5834 extension coupler for Kleenseal or hydraulic fittings.

Barrel finished in dull nickel. Gun head is painted black.

With Filler Nipple

No.		*1043F	1043FB
Each		\$4.65	5.65
Overall Length	inches	13 $\frac{3}{4}$	20 $\frac{3}{4}$
Shipping Weight	pounds	4 $\frac{3}{4}$	5

Without Filler Nipple

No.		*1043	1043B
Each		\$4.15	5.15
Overall Length	inches	13 $\frac{3}{4}$	20 $\frac{3}{4}$
Shipping Weight	pounds	4 $\frac{3}{4}$	5

*Gun only without extension coupler; outlet $\frac{1}{8}$ -inch pipe thread, female.

No. 5833 Linpak Kleenseal Extension Nozzles



Includes No. 5804 Linpak nozzle and 6-inch steel extension tube. Has $\frac{1}{8}$ -inch male pipe thread connection.

Shipping weight, 4 ounces.

No. 5833.....each \$.75

No. 5834 Lincoln Kleenseal Hydraulic Extension Couplers



Includes No. 5845 hydraulic coupler and 6-inch steel extension tube. Has $\frac{1}{8}$ -inch male pipe thread connection.

Shipping weight, 4 ounces.

No. 5834.....each \$1.00

No. 1254RD Lincoln Lub-Paks Fluid Lubricant Dispensers Capacity, 30 Pounds



Lubricant output, 7 strokes to pint, using S.A.E. No. 90 gear oil at 90°F.

Hand-operated. Dispenses all types of gear and fluid lubricants for servicing transmissions, differentials and gear cases. To refill container, loosen three lid fasteners and remove pumping unit, leaving a large, unobstructed filler opening. Pump unit can be suspended off the floor and out of the range of dirt.

Overall dimensions: height, 25 inches; width including footstep, 15 inches; diameter of container, 10 $\frac{3}{4}$ inches.

Furnished complete with No. 74560 5-foot hose with No. 80599 non-drip nozzle and container with 40-pound capacity.

Bonderized and finished in red baked enamel; black pump handle. Shipping weight, 24 pounds.

No. 1254RD, Complete.....each \$22.00

No. 1273D Lincoln Kleenseal High Pressure Bucket Pumps 3500 Pound Maximum Pressure 30-Pound Capacity



For the lubrication of farm implements, tractors, trucks and industrial machinery where high pressures are required to lubricate closely fitted bearings.

Made of heavy gage steel with reinforced bottom. Footstep welded across bottom.

For heavy or light lubricants. Up and down pump action. Pressure release operates automatically when handle is raised to topmost position.

Follower plate furnished with each unit prevents channeling when pumping heavy lubricants.

Lubricant output, .28 ounces per stroke.

Container bonderized and finished in red baked enamel, pump handle in black.

Overall dimensions: height 25 inches; width 14 $\frac{1}{4}$ inches including footstep; diameter 9 inches. Shipping weight 27 pounds.

No. 1273D, With No. 81768 Hose Assembly, 7-Foot Length, and Nozzle for Kleenseal and Hydraulic Fittings.....each \$35.15

No. 81794—Gun Filler Attachment

With $\frac{3}{8}$ -inch P.T. male inlet, $\frac{3}{8}$ -inch P.T. female outlet. Weight, 1 pound.

No. 81794.....each \$2.45

Plews Force Feed Oilers



Flexible, Detachable Nozzle



Nos. 42-DFS and 60-DFS—Shock Absorber Type

With 18-Inch Flexible Spout

A thumb-lever type oiler indispensable for rapid and convenient service work on shocks. With this oiler it is possible to refill rear shocks on many cars without having to remove them.

The small vent tube on the detachable nozzle is of copper and may be bent to any desired shape. It is inserted through the filler hole into the oil reservoir in rear shocks thus preventing the formation of bubbles or air locks in the filler duct or the oil chamber. Equally useful for brake fluid.

This oiler will dispense heavy lubricants such as castor oil, 600W, etc. Assembly nickel plated. Body bright aluminum lacquered.

Packed 3 in a carton.

No.	42-DFS	60-DFS
Each	\$3.38	4.20
Capacity	1½ Pints	1 Quart
Ship. Weight, per Dozen	15 pounds	20

Nos. 42-DRS and 60-DRS—Machinery and Automotive Type

With Rigid Detachable Spout

This standard pattern pump oiler is used very widely in the lubrication of all kinds of machinery.

Assembly nickel plated. Body bright aluminum lacquered. Packed 3 in a carton.

	—No. 42-DRS—		—No. 60-DRS—	
Length Spout	10 inches	16	11	16
Each	\$2.75	2.94	3.58	3.78
Capacity	1½ Pt.	1½ Pt.	1 Qt.	1 Qt.
Ship. Wt. per Doz.	13 lb.	14	18	18

Plews Force Feed Oilers

Vertical Spout Model—Cone-Tipped Vent



Once primed, oiler will feed efficiently when held in any position.

Aluminum lacquer finish. Brass tubes; phosphor bronze springs. Large plated steel balls are hard to clog and readily accessible for cleaning out chaff and dirt.

Ledge on cone tip to open spring held covers of oil cups in one operation.

Packed 12 in a carton.

No.	3310	3335	3375	3385
Each	\$1.75	2.00	2.09	2.75
Capacity	¾ pt.	1	1½	1 Qt.
Spout	7 in.	9	9	10
Wt. Doz.	8 lb.	9	12	16

Plews Pump Oilers

Large non-clogging brass pump tubes; lower half of body, one-piece. Cone tipped vent seats in oil hole, forces oil into bearing, prevents it spilling back outside. Ledge on tip is to open spring-held covers of oil cups. Pumps any grade of oil that flows, winter or summer. Pump of two telescoping brass tubes, steel ball valves, bronze valve springs.

Bright aluminum lacquer finish.



No.	3320	3340
Each	\$1.85	2.14
Cap.	¾ pt.	1
Spout	7 in.	9
Ship. Wt. Doz.	8 lb.	9

No. 1125 Plews Pistol Oilers

Capacity, 1 Pint



For mechanic who has to use an oiler frequently.

Outer cone tip on this oiler has small orifice to project fine stream of oil, and is of ledged pattern for one hand operation in opening spring held covers of small oil cups. Inner tip has larger aperture if a heavier discharge is desired. Will project oil 10 or 15 feet. All parts of brass or steel.

Has 6-inch double-tipped spout. Nickel-plated finish.

Packed 1 in a carton.

Shipping weight per dozen, 11 pounds.

No. 1125.....each \$3.40

Plews Force Feed Pistol Oilers

Capacity, 6 Ounces

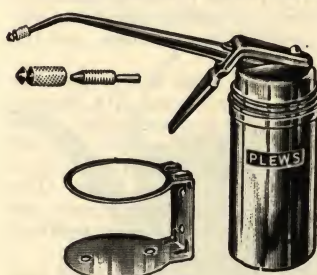
Will project oil a distance of 15 or 20 feet.

Constructed of metal. No leather plungers or valves. Ledge on outer spout tip to open spring held covers of oil cups in a one hand operation. Polished nickel finish.

Length spout, 6 inches.

Height oiler, 5 inches.

Weight per dozen, 9 lb.



No. 911, Streamlined Model, with Holder, Double Tip Vent; Packed 1 in a Box.....per dozen \$27.60

No. 1105, Single Cone Tip on Spout, No Holder, Copper Plated and Copper Lacquered Finish; Indiv. Wrapped.....per dozen 21.60

No. 10 Plews Force Feed Machinery Oilers

¾-Pint Capacity—Upright Spout

Will pump any oil that will flow. Lever handle makes it easy to operate and gives perfect control.

No leather valves or plungers to deteriorate. Entire working assembly is easy of access in one detachable unit. Has brass cone-shaped tip on spout with ledge for one hand operation in opening spring held covers of small oil cups.

Cadmium plated balls and bronze springs prevent rusting of valves.

Nickel-plated finish.

Spout length, 7 inches.

Packed 12 in a carton.

Weight per dozen, 9 pounds.

No. 10.....each \$2.00

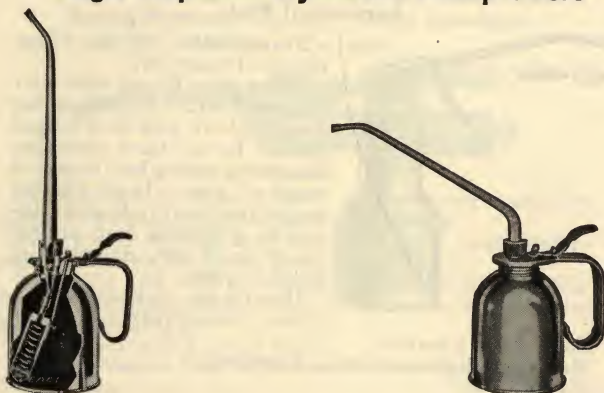


WHEN ORDERING

please refer to the sizes and numbers shown in this book.

It will help us in filling your order accurately.

Eagle Improved Hydraulic Pump Oilers



For use by mechanics, millwrights, farmers and service station attendants. Used in mills, mines, factories and foundries for shafting, conveyors, presses, shop equipment, harvesting machinery, tractors, trucks, automobiles, and for all general machine shop use.

Constructed with seamless drawn steel body, genuine double seamed bottom, and welded steel spout with extended steel thread protector. Steel spout is detachable.

Pumps any oil that will flow. Will deliver oil in a full stream or one drop under perfect control, the quantity controlled by the pressure exerted on the thumb lever. The position of the one-piece handle and the thumb lever enables the operator to force oil in any angle from any position with the least effort.

Oiler is Copperite finish. Has brass couplings with machine cut threads, and a machined and ground brass plunger. Ball valves.

Positive in its action, easy to operate and easy to clean. Packed 6 in a box.

With Upright Spouts

No.	Cap. Pints	Length Spout In.	Diam. In.	Height Overall In.	Wt. Lb. Per Doz.
27	3/4	6	3	10 1/2	11 1/4
279	3/4	9	3	13 1/2	11 1/2
28	1	9	3 5/8	14 1/4	15 1/2
2812	1	12	3 5/8	17 1/4	16 1/2
2815	1	15	3 5/8	20 1/2	17
29	2	9	4 1/4	15 1/2	18 1/2
2912	2	12	4 1/4	18 1/2	19
2915	2	15	4 1/4	21 1/2	19 1/2

With 50° Angle Spouts

No.	Cap. Pints	Length Spout In.	Diam. In.	Height Overall In.	Wt. Lb. Per Doz.
27A	3/4	6	3	7 1/2	11 1/4
279A	3/4	9	3	9	11 1/2
28A	1	9	3 5/8	10	15 1/2
2812A	1	12	3 5/8	12	16 1/2
2815A	1	15	3 5/8	14	17
29A	2	9	4 1/4	11	18 1/2
2912A	2	12	4 1/4	13	19
2915A	2	15	4 1/4	15	19 1/2

Eagle Railroad Oilers

Made of high grade cold rolled steel; has solid brass spout bushings and machine cut threads.

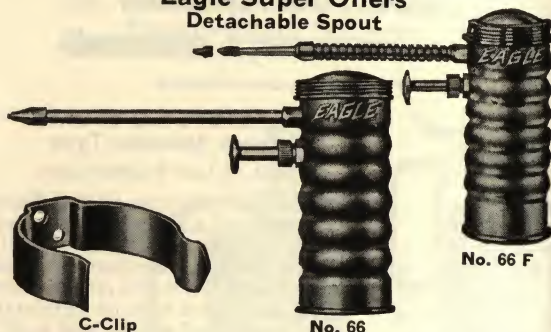
The body is a one-piece seamless shell. Handle is welded to body. Copperite finish.

Packed 6 in carton.

No.	10	11
Per Dozen.	.....	.....
Extra Spouts..... per dozen	.....	.....
Capacity..... pints	1	2
Length Spout..... inches	12	18
Diameter at Bottom..... inches	3 5/8	4 1/4
Height to Top of Collar..... inches	4 3/4	5 7/8
Height Overall..... inches	16 3/8	23 3/8
Weight per Dozen..... pounds	9 1/2	14 1/4



Eagle Super Oilers Detachable Spout



C-Clip

No. 66

No. 66 F

Delivers one drop or a full stream of oil. The No. 66 will discharge oil a distance of 1/4 inch or 25 feet.

Machined and ground brass plunger, re-enforced beaded brass body; no soldered connections in pump mechanism. The No. 66F which is ideal for refrigerator service is equipped with threaded brass cap on spout tip.

Oilers may be equipped with controlled measure CM attachment on pump plunger. This attachment permits an exact amount of oil to be ejected at each stroke. Attachment is quickly adjustable. Must, however, be fitted at factory. When wanted, add suffix CM to No. of oiler.

Has polished finish.

Packed 6 in a carton.

No.	66	66 F
Per Dozen.	.....	.....
With CM Attachment..... per dozen	.....	.....
Capacity..... ounces	5 1/2	5 1/2
Length Spout..... inches	4 3/4	7
Height Overall..... inches	4 7/8	4 7/8
Diameter Filler Opening..... inches	1 5/8	1 5/8
Weight per Dozen..... pounds	6	7

C-Clip or Holder

May be fastened to any work bench or wall.

Weight per dozen, 3/8 pound.

Per Dozen.....

Eagle Welded Steel Bench Oilers

Re-Enforced Insert Type Spouts All Sizes Interchangeable

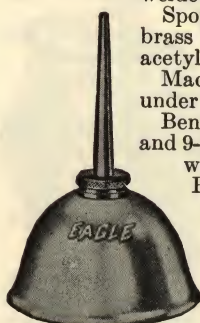
For railroads, mills, mines, foundries, factories and general mill supply trade. One piece seamless high-grade steel body, highly polished and lacquered. Carbon steel bottoms welded to bodies.

Spout fitted with knurled brass bushing and spout seam acetylene welded.

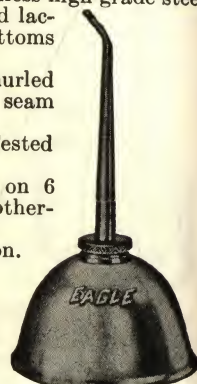
Machine cut threads. Tested under air pressure.

Bent spouts furnished on 6 and 9-inch lengths unless otherwise specified.

Packed 12 in a carton.



Straight Spout



Bent Spout

No.	Per Dozen	Extra Spouts per Doz.	Outside Diameter Inches	Trade Cap. Pints	Length Spout Inches	Ht. Top of Collar Inches	Height Overall per Doz. Inches	Wt. Lb. Packed
2004	3 3/8	1 3/8	4	2 1/16	5 3/4	4
2006	3 3/8	1 3/8	6	2 1/16	7 3/4	4 1/4
2009	3 3/8	1 3/8	9	2 1/16	10 1/2	4 1/2
3004	3 3/4	1 1/2	4	2 5/16	6	4 3/8
3006	3 3/4	1 1/2	6	2 5/16	7 3/4	4 3/4
3009	3 3/4	1 1/2	9	2 5/16	10 3/4	5 1/8
4004	4 1/8	3/4	4	2 7/16	6 1/8	5 3/8
4006	4 1/8	3/4	6	2 7/16	8	5 1/2
4009	4 1/8	3/4	9	2 7/16	11	5 7/8
5004	4 1/2	1	4	2 11/16	6 3/8	6 1/4
5006	4 1/2	1	6	2 11/16	8 1/8	6 3/8
5009	4 1/2	1	9	2 11/16	11 1/4	6 3/4

Eagle Polished Steel Oilers

Not Plated—Interchangeable Spouts

Made from high grade cold-rolled steel. Has spring steel bottom.

Seamless drawn steel body, collar included, all one piece. Heavy rolled threads. Bottom double seamed to body. Polished steel surface, with heavy coat of lacquer. Mouth opening, 1 3/8 inches wide.

Packed 12 in a carton.

Unless otherwise specified, 9-inch spouts furnished bent.



Straight Spout



Bent Spout

No.	Per Dozen	Cap. Pints	Lgth. Spout In.	Diam. at Bottom In.	Height to Top Collar Inches	Height Overall In.	Wt. Lbs. per Doz.
123-PS	1/4	3	2 7/8	1 7/8	5 1/2	2 1/4
133-PS	1/8	3	3 1/2	2 7/8	5 5/8	2 3/4
135-PS	1/8	5	3 1/2	2 1/8	6 3/4	3
139-PS	1/8	9	3 1/2	2 7/8	10 5/8	3 1/2
143-PS	1/2	3	4	2 5/8	6	4
145-PS	1/2	5	4	2 5/8	7 1/4	4 1/4
149-PS	1/2	9	4	2 5/8	11 1/4	4 1/2
153-PS	1	3	4 5/16	3 3/4	6 7/8	5
155-PS	1	5	4 5/16	3 1/4	7 3/4	5 1/4
159-PS	1	9	4 5/16	3 3/4	11 7/8	5 1/2

Eagle Welded Steel Bench Oilers

With Flexible Spouts

One-piece body drawn from high grade steel; carbon steel bottom electrically welded to body. Bushings in body and on spout base have precision machine cut threads.

Polished and lacquered finish.

Packed 1 dozen in a carton.

No.	2000F	3000F	4000F	5000F
Per Dozen...	....	....	....	....
Spouts per Doz.	....	....	....	....
Trade Cap. pt.	1 3/8	1 1/2	3 1/4	1
O. D. in.	3 3/8	3 3/4	4 1/8	4 1/2
Lgth. Spout..in.	7	7	7	7
Ht. Top of Collar. in.	2 1/16	2 5/16	2 7/16	2 11/16
Wt. per Doz..lb.	4 3/4	5	6	6 3/4



Eagle Copperite Finish Engineers' Fillers

Made from high grade cold rolled steel, double seamed bottom; threaded filler cap and filler opening, 1 1/2-inch opening.

Spout seam is welded. Spout and handle welded to body.

Packed 6 in a carton.

No.	19	19A	210	211
Per Dozen.....	19	19A	210	211
Capacity..... pints	1	1 1/2	2	4
Diameter..... inches	4 1/4	5 1/4	5 1/2	6 3/8
Height..... inches	3 3/8	4 1/2	4 3/4	5 3/4
Spout Length..... inches	4 3/8	6 7/8	6 7/8	6 7/8
Diameter Spout Opening. in.	1 1/4	1 1/4	1 1/4	1 1/4



No. 212 Eagle Copperite Finish Tallow Pots

Capacity, 1 Quart

Seamless welded steel spout, acetylene welded to filler bodies. Seamless drawn body, double seamed bottom. Handle welded to body.

Has slip top filler cap, 1 3/4-inch opening with chain attachment.

Length spout, 6 7/8 inches. Diameter spout opening 1/4 inch.

Diameter of pot, 5 1/2 inches. Height to top cap, 4 1/8 inches.

Packed 6 in a carton. Weight per dozen, 13 pounds.

No. 212.....per dozen

Eagle Welded Steel Tallow or Valve Oil Pots

Trade Capacity, 2 Quarts—With Strainer



For filling sight feed oilers, large oil cups, etc. One-piece seamless steel body. 16-gage steel handle, 1 inch wide, spot welded to body. Size of bottom, 5 1/4 x 7 1/2 in. Length of spout, 6 7/8 inches. Opening diameters:

Spout, 3/8 inches; filler, 2 1/2 inches. collar, 5 5/8 inches; overall, 6 1/2 inches.

Heights: To top of

	No. 40	No. 40B with Bail	No. 40SH Side Hdle.
Per Dozen.....	18	19 1/2	18
Weight per Dozen.....pounds	18	19 1/2	18

No. 43 Eagle Welded Steel Fillers



Has slip top cap, chained to handle. Double seamed bottom.

Welded spouts acetylene welded to body. Handle of 16-gage steel, 1-inch wide. No solder or rivets.

Length of spout, 6 inches. Diameter of spout opening, 3/8-inch; diameter of filler

opening, 2 inches; diameter of bottom, 6 3/4 inches; height to top cap, 4 3/8 inches. Capacity, 1 quart. Black enamel finish.

Weight per dozen, 16 1/2 pounds.

No. 43.....per dozen

Eagle Welded Steel Pyramid Oilers

Nos. 30 and 31 have seamless bodies with double seamed bottoms. Rolled spout threads.

Handles spot welded to bodies.

All have vent tubes.

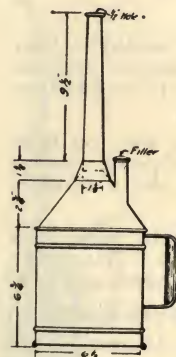
Black enamel finish.



Nos. 30 and 31

No.	30	31	32
Per Dozen.....	30	31	32
Spouts.....	....	....	....
Capacity..... pints	1	2	4
Length Spout..inches	11	11	12
Diam. Spout Open.in.	3/8	5/16	1/4
Diam. Filler Open.in.	1 3/8	1 3/8	1 1/4
Outside Diam.inches	4 1/4	6	6 3/4
Height Overall...in.	16 1/2	17 1/2	19 3/8
Weight per Dozen.lb.	12	16 1/2	21

No. 8 Johnson 'Inspectors' Oil Cans



Made of heavy charcoal 3XXX tin plate. Used for heavy oil by car inspectors for hot boxes where a quick and easy flow of oil is desired.

Capacity, one gallon.

Diameter, 6 1/8 inches.

Height over all, 20 inches.

Diameter of outlet, 1/2 inch.

Price.....per dozen **\$13.00**

Detroit Glass Body Oil Cups



Polished brass. Has set feed and sight feed.

Locking wing presses against knurled adjusting nut.

Filling cover provided with spring that instantly snaps back when released.

Keeps oil filling hole closed all the time.

No.	Each	I.P. Thread In.	O.D. Glass In.	Ht. Glass In.	Cap. Oz.	Wt. Oz.
500	\$1.75	1/8	1 1/4	1 1/8	5/8	3
501	2.10	1/4	1 1/2	1 3/8	1 1/8	5
501 1/2	2.45	3/8	1 3/4	1 5/8	1 1/2	6
502	2.90	1/2	2	1 7/8	2 1/2	7
504	4.40	3/8	2 1/2	2 3/8	5	11
505	5.45	1/2	3	3	10	17
506	6.70	3/2	3 1/2	4	18	26

Detroit Glass Body Oil Cups



For use on machinery and bearings of all kinds. Caps and bases are pressed brass; sight feed posts are rod brass.

Stop feed consists of a lever at the top of the cup which permits oil to be shut off, fed at regular rate or in a stream, without disturbing the set feed.

No.	Pol. Brass Each	O.D. Glass In.	Ht. Glass In.	Cap. Oz.	Shank Pipe Thrd., In.
600	\$4.20	1 1/4	1 1/8	5/8	1/8
601	4.55	1 1/2	1 3/8	1 1/8	1/4
601 1/2	4.90	1 3/4	1 5/8	1 1/2	1/2
602	5.25	2	1 7/8	2 1/2	3/8
604	7.35	2 1/2	2 3/8	5	3/8
605	10.15	3	3	10	1/2
606	12.95	3 1/2	4	18	1/2

Pyrex Oil Cup Glasses

For use in oil cups or any similar visible discharge device. Has unusual transparency, uniformity of size, and accurately ground ends.



Size No.	Cat. No.	Per Std. Ctn.	O.D. In.	Lgth. In.	Std. Ctn.
000	626120	\$15.00	1	7/8	100
00	626180	17.00	1 1/8	1	100
0	626220	19.00	1 1/4	1 1/8	100
1	626260	23.00	1 1/2	1 3/8	100
1 1/2	626380	30.00	1 3/4	1 5/8	100
2	626470	36.00	2	1 7/8	100
3	626560	44.00	2 1/4	2 1/8	100
4	626620	53.00	2 1/2	2 3/8	100
5	626730	78.00	3	3	100
6	626780	53.50	3 1/2	4	50
8	626940	54.00	4 1/4	5	30
10	626121	47.25	5 1/2	7	15

Detroit Standard Double Connection Lubricators



For use on all kinds of reciprocating steam engines, steam pumps, etc.

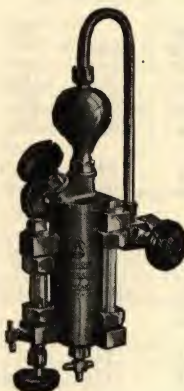
Not recommended for pressures in excess of 150 pounds.

Installed with both connections between the boiler and throttle.

Finished in polished brass.

Capacity.....pints	1/2	1	2
Pipe Thread on Support Arm.....inches	1/2	1/2	1/2

Detroit Standard Single Connection Lubricators



Lubricator properly lubricates the valves and cylinders of steam engines, steam pumps, gas engines, air compressors, etc. where conditions do not permit the installation of a double connection lubricator. It is not recommended for service where the pressure is in excess of 150 pounds.

Connected to the steam pipe either above or below the throttle or into the steam chest direct.

Finished in polished brass, with composition handles.

Furnished with 1/2-pint, 1-pint and 1-quart capacities. Pipe thread on support arm, 1/2-inch.

Ratchet Compression Grease Cups

This lever-ratchet grease cup is standard equipment on leading automobiles and implements.

A sturdy inner device prevents cover from unscrewing when subjected to excessive vibration. It clicks on the first turn and every quarter turn, a positive ratchet.



No.	I.D. In.	Cap. Oz.	I.P. Thread In.	Female Pipe Thread In.	Plain Steel	N. P. Steel	Each Brass	Polished Brass	N.P. Brass
000	3/4	1/4	1/8 or 1/4	1/8	\$4.00	\$6.00	\$4.55	\$5.55	\$7.72
00	1	1/2	1/8 or 1/4	1/8	.50	.70	.55	.70	.80
0	1 1/4	3/8	1/8 or 1/4	1/8 or 1/4	.65	.90	.75	.90	1.05
1	1 1/2	1	1/8, 1/4 or 3/8	1/8 or 1/4	.80	1.05	.95	1.10	1.30
2	2	1 1/4	1/8, 1/4 or 3/8	1/4 or 3/8	1.05	1.40	1.25	1.45	1.75
3	2 1/2	3 1/2	1/4, 3/8 or 1/2	1/4 or 3/8	1.45	2.00	1.75	2.15	2.55
4	3	5	1/2 or 3/8	3/8 or 1/2	2.00	2.50	3.00	3.50	4.00

American Plain Compression Grease Cups



No.	I. D. In.	I. P. Thrd., In.	Fem. Pipe Thrd., In.	Cap. Oz.	Ht. Over all, In.
000	3/4	1/8 or 1/4	1/8	1/4	1 1/2
00	1	1/8 or 1/4	1/8	1/2	1 3/4
0	1 1/4	1/8 or 1/4	1/8 or 1/4	2/3	2
1	1 1/2	1/8-1/4-3/8	1/8 or 1/4	1	2 1/2
2	2	1/4-3/8-1/2	1/4 or 3/8	2	2 3/4
3	2 1/2	1/4-3/8-1/2	1/4 or 3/8	3 1/2	3
4	3	3/8 or 1/2	3/8 or 1/2	5	4

No.	Plain Steel Each	N. P. Steel Each	Dull Brass Each	Pol. Brass Each	N. P. Brass Each
000	\$4.40	\$6.00	\$4.45	\$5.55	\$7.72
00	.50	.70	.55	.70	.80
0	.65	.90	.75	.90	1.05
1	.80	1.05	.95	1.10	1.30
2	1.05	1.40	1.25	1.45	1.75
3	1.45	2.00	1.75	2.15	2.55
4	2.00	2.50	3.00	3.50	4.00

Wrought from heavy selected metal, steel or brass. Free from sand holes, etc. Full knurled cover.

Steel Machine Bolts

With American Standard Regular Square Heads
and Square Nuts
Cut Thread



1/4-Inch Diameter					5/16-Inch Diameter				
Length Inches	Per 100	No. in Std. Pkg.	STD. CONTAINER Quan- tity	APPROX. Wt. Lb.	Per 100	No. in Std. Pkg.	STD. CONTAINER Quan- tity	APPROX. Wt. Lb.	
1/2	\$1.10	100	4000	93	\$1.70	50	2500	104	
5/8	1.10	100	4000	106	1.70	50	2500	109	
3/4	1.15	100	3200	94	1.70	50	2500	119	
1 1/4	1.25	100	3200	106	1.75	50	3000	154	
1 1/2	1.30	100	3400	125	1.80	50	2000	116	
1 3/4	1.50	100	2600	106	1.95	50	2100	133	
2	1.50	100	3000	133	2.20	50	1600	110	
2 1/4	1.70	100	2200	105	2.20	50	2000	148	
2 1/2	1.70	100	2700	137	2.45	50	1500	119	
2 3/4	1.85	100	2000	109	2.45	50	2400	203	
3	1.85	100	2400	138	2.70	50	1200	108	
3 1/4	2.05	100	1600	99	2.70	50	2400	228	
3 1/2	2.05	100	2000	131	2.95	50	1000	102	
4	2.50	100	2000	144	2.95	50	1800	191	
4 1/2	2.65	100	1600	126	3.15	50	1400	167	
5	2.80	100	1300	113	3.60	50	1300	166	
5 1/2	2.95	100	1200	113	3.80	50	1000	140	
6	3.10	100	1100	112	4.00	50	800	122	
6 1/2	3.80	...	1000	109	4.20	50	900	145	
7	4.00	...	1000	116	5.10	50	600	105	
8	4.35	...	1000	131	5.35	50	800	148	
					5.80	..	600	126	
3/8-Inch Diameter					7/16-Inch Diameter				
Length Inches	Per 100	No. in Std. Pkg.	STD. CONTAINER Quan- tity	APPROX. Wt. Lb.	Per 100	No. in Std. Pkg.	STD. CONTAINER Quan- tity	APPROX. Wt. Lb.	
1	\$2.25	50	2000	146	\$3.95	50	1000	119	
1 1/4	2.35	50	2800	224	4.10	50	700	91	
1 1/2	2.45	50	2000	176	4.25	50	1000	138	
1 3/4	2.60	50	2400	231					
2	2.90	50	1500	155	4.55	50	600	90	
2 1/4	2.90	50	2000	225	4.55	50	1000	158	
2 1/2	3.20	50	1100	132	4.85	50	600	103	
2 3/4	3.20	50	1800	227	4.85	50	900	159	
3	3.50	50	1100	148					
3 1/4	3.50	50	1500	212	5.20	50	900	181	
3 1/2	3.80	50	800	123					
3 3/4	3.80	50	1200	192	5.50	50	800	176	
4	4.10	50	600	102					
4 1/4	4.10	50	1200	211	5.85	50	800	195	
4 1/2	4.40	50	1000	193	6.15	50	600	159	
5	4.80	50	900	187	6.50	50	600	171	
5 1/2	5.10	50	600	135					
6	5.40	50	800	191	6.85	50	400	126	
6 1/2	6.50	50	500	129	7.15	50	500	166	
7	6.85	50	600	165	9.20	50	400	142	
7 1/2	7.15	50	400	117	9.65	50	400	151	
8	7.50	50	600	184					
8 1/2	7.80	50	400	130	10.55	50	300	128	
9	8.15	50	500	171					
9 1/2	8.45	50	300	109	11.45	50	300	140	
10	8.80	50	500	187					
11	9.50	50	300	123					
12	10.20	50	300	132					

Steel Machine Bolts

With American Standard Regular Square Heads
and Square Nuts
Cut Thread



1/2-Inch Diameter					3/4-Inch Diameter				
Length In.	Per 100	No. in Std. Pkg.	STD. CONTAINER Quan- tity	APPROX. Wt. Lb.	Length In.	Per 100	No. in Std. Pkg.	STD. CONTAINER Quan- tity	APPROX. Wt. Lb.
1	\$4.60	50	1200	201	1	\$8.10	25	850	254
1 1/4	4.80	50	1200	214	1 1/4	8.35	25	800	253
1 1/2	5.00	50	1200	230	1 1/2	8.60	25	800	269
1 3/4	5.35	50	800	168	1 3/4	9.10	25	700	251
2	5.35	50	1000	221	2	9.10	25	600	229
2 1/4	5.75	50	600	141	2 1/4	9.60	25	600	242
2 1/2	5.75	50	1000	247	2 1/2	9.60	25	600	252
2 3/4	6.15	50	500	133	2 3/4	10.10	25	500	223
3	6.15	50	800	221	3	10.10	25	500	234
3 1/4	6.50	50	500	146	3 1/4	10.60	25	450	221
3 1/2	6.50	50	800	243	3 1/2	10.60	25	400	206
3 3/4	6.85	50	300	98	3 3/4	11.10	25	400	215
4	6.85	50	600	198	4	11.10	25	400	224
4 1/4	7.25	50	600	206	4 1/4	11.60	25	300	174
4 1/2	7.25	50	600	218	4 1/2	11.60	25	300	184
4 3/4	7.65	50	600	226	4 3/4	12.10	25	300	186
5	7.65	50	600	234	5	12.10	25	300	196
5 1/2	8.05	50	500	212	5 1/2	12.60	25	275	193
6	8.45	50	600	266	6	13.10	25	250	187
6 1/2	10.15	50	400	192	6 1/2	13.60	25	250	198
7	10.60	50	400	204	7	14.10	25	225	189
7 1/2	11.05	50	250	135	7 1/2	14.60	25	225	198
8	11.50	50	350	198	8	15.10	25	200	184
8 1/2	11.95	50	200	121	8 1/2	15.60	..	200	193
9	12.40	50	300	188	9	16.10	..	175	178
9 1/2	12.85	50	200	132	9 1/2	16.60	..	175	185
10	13.30	50	300	205	10	17.10	..	150	168
10 1/2	14.70	..	200	142	10 1/2	18.10	..	150	174
11	14.70	..	200	148	11	18.10	..	150	180
11 1/2	15.60	..	200	153	11 1/2	19.10	..	125	157
12	15.60	..	200	159	12	19.10	..	125	162
13	16.50	..	200	169	13	20.10	..	125	173
14	17.40	..	200	180	14	21.10	..	100	149
15	18.30	..	200	191	15	22.10	..	100	158
16	19.20	..	200	202	16	23.10	..	100	166
17	20.10	..	200	216	17	24.10	..	100	175
18	21.00	..	200	228	18	25.10	..	100	184
19	21.90	..	200	238	19	26.10	..	100	192
20	22.80	..	200	250	20	27.10	..	100	201
22	24.60	..	150	202	22	29.10	..	100	218
24	26.40	..	..	..	24	31.10	..	100	235
5/8-Inch Diameter					1-Inch Diameter				
Length In.	Per 100	No. in Std. Pkg.	STD. CONTAINER Quan- tity	APPROX. Wt. Lb.	Length In.	Per 100	No. in Std. Pkg.	STD. CONTAINER Quan- tity	APPROX. Wt. Lb.
1	\$10.95	..	600	276	7 1/2	\$18.75	..	150	194
1 1/4	10.95	..	500	246	8	19.40	..	125	171
1 1/2	10.95	..	475	245	8 1/2	20.05	..	125	178
1 3/4	11.60	..	450	245	9	20.70	..	125	187
2	11.60	..	425	245	9 1/2	21.35	..	125	194
2 1/4	12.25	..	400	244	10	22.00	..	125	202
2 1/2	12.25	..	375	240	10 1/2	23.30	..	100	169
2 3/4	12.90	..	350	235	11	23.30	..	100	175
3	12.90	..	325	228	11 1/2	24.60	..	100	181
3 1/4	13.55	..	300	220	12	24.60	..	100	188
3 1/2	13.55	..	275	211	13	25.90	..	100	200
3 3/4	14.20	..	275	220	14	27.20	..	100	213
4	14.20	..	275	228	15	28.50	..	100	225
4 1/4	14.85	..	225	192	16	29.80	..	100	237
4 1/2	14.85	..	225	203	17	31.10	..	100	249
4 3/4	15.50	..	200	184	18	32.40	..	100	265
5	15.50	..	200	194	19	33.70	..	100	277
5 1/2	16.15	..	200	206	20	35.00	..	100	289
6	16.80	..	175	193	22	37.60	..	70	221
6 1/2	17.45	..	175	203	24	40.20	..	70	238
7	18.10	..	150	185					

The sizes listed above are considered Standard in accordance with Recommendation No. R169-45, 10-1-45; all other sizes are non-standard, prices on request.

The sizes listed above are considered Standard in accordance with Recommendation No. R169-45, 10-1-45; all other sizes are non-standard, prices on request.

Steel Machine Bolts

With American Standard Regular Square Heads
and Square Nuts

Cut Thread



¾-Inch Diameter				1-Inch Diameter			
Length Inches	Per 100	No. in Std. Pkg.	—CONTAINER— Std. Quant- ity Wt. Lb. Approx.	Per 100	No. in Std. Pkg.	—CONTAINER— Std. Quant- ity Wt. Lb. Approx.	
1½	\$16.70	..	300 238	.....	..	..	..
1¾	17.60	..	300 248	.....	..	..	..
2	17.60	..	275 239	\$24.40	..	200 244	..
2¼	18.50	..	250 229	.....	..	..	..
2½	18.50	..	225 217	25.55	..	180 239	..
2¾	19.40	..	210 212	.....	..	..	..
3	19.40	..	200 210	26.70	..	150 218	..
3¼	20.30	..	190 208	.....	..	..	..
3½	20.30	..	190 215	27.85	..	135 211	..
3¾	21.20	..	150 179	29.00	..	130 210	..
4	21.20	..	150 185	29.00	..	125 208	..
4¼	22.10	..	150 187	.....	..	..	..
4½	22.10	..	150 197	30.15	..	110 197	..
5	23.00	..	150 209	31.30	..	110 209	..
5½	23.90	..	130 193	32.45	..	100 202	..
6	24.80	..	130 205	33.60	..	100 213	..
6½	25.70	..	130 216	34.75	..	80 181	..
7	26.60	..	110 192	35.90	..	80 189	..
7½	27.50	..	100 185	37.05	..	80 198	..
8	28.40	..	100 193	38.20	..	80 207	..
8½	29.30	..	100 201	.....	..	..	..
9	30.20	..	100 210	40.50	..	75 210	..
10	32.00	..	90 204	42.80	..	60 183	..
11	33.80	..	75 184	45.10	..	50 166	..
12	35.60	..	75 196	47.40	..	50 176	..
13	37.40	..	75 209	49.70	..	50 187	..
14	39.20	..	50 152	52.00	..	50 198	..
15	41.00	..	50 160	54.30	..	50 209	..
16	42.80	..	50 169	56.60	..	50 220	..
17	44.60	..	50 177	58.90	..	50 231	..
18	46.40	..	50 186	61.20	..	50 242	..
19	48.20	..	50 194	.....	..	..	..
20	50.00	..	50 203	.....	..	..	..
22	53.60	..	50 219	.....	..	..	..
24	57.20	..	50 236	.....	..	..	..

¾-Inch Diameter				1-Inch Diameter			
Length Inches	Per 100	No. in Std. Pkg.	Quant- ity Wt. Lb.	Length Inches	Per 100	No. in Std. Pkg.	Quant- ity Wt. Lb.
4	\$48.50	..	90 202	4	\$57.75	..	70 209
4½	49.80	..	80 192	5	59.40	..	65 206
5	51.10	..	75 190	6	61.05	..	60 200
5½	52.40	..	70 188	7	62.70	..	55 194
6	53.70	..	65 184	8	64.35	..	55 203
7	56.30	..	60 188	9	67.65	..	50 202
8	58.90	..	55 188	10	70.95	..	45 198
9	61.50	..	50 186	11	74.25	..	45 213
10	64.10	..	45 181	12	77.55	..	40 205
11	66.70	..	45 194	13	80.85	..	40 218
12	69.30	..	40 185	14	84.15	..	30 177
14	74.50	..	40 206	15	90.75	..	30 198
15	77.10	..	40 218	16	94.05	..	30 208
16	79.70	..	40 228	17	97.35	..	30 218
17	82.30	..	40 238	18	100.65	..	30 228
18	84.90	..	40 249		103.95	..	25 201

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Steel Carriage Bolts

With American Standard Regular Square Nuts

Cut Thread



⅝-Inch Diameter				¾-Inch Diameter			
Length Inches	Per 100	No. in Std. Pkg.	—STANDARD CONTAINER— Quant- ity Wt. Lb. Approx.	Length Inches	Per 100	No. in Std. Pkg.	—STANDARD CONTAINER— Quant- ity Wt. Lb. Approx.
1½	\$1.05	100	1500 18	1½	\$1.05	100	1500 32
5/8	1.05	100	1500 19	1¾	1.05	100	1500 34
¾	1.05	100	1500 21	2	1.05	100	1500 40
1	1.10	100	3800 59	2½	1.10	100	3000 89
1¼	1.15	100	3600 63	3	1.15	100	3400 113
1½	1.20	100	4200 82	3½	1.20	100	4200 155
1¾	1.35	100	2800 60	4	1.35	100	2800 114
2	1.35	100	3200 75	4½	1.35	100	4500 197
2¼	1.55	100	2800 72	5	1.55	100	2400 115
2½	1.55	100	3600 99	5½	1.55	100	5000 253
2¾	.....	.....	.....	6	1.70	100	2000 109
3	1.70	100	3200 100	6½	1.70	100	3600 206
3¼	1.85	100	2400 86	7	1.85	100	1800 111
3½	.....	.....	.....	7½	1.85	100	2400 155
3¾	.....	.....	.....	8	2.30	100	1400 96
4	2.30	100	2200 87		2.30	100	2200 157
4½	.....	.....	.....		2.45	100	2000 157
5	.....	.....	.....		2.60	100	1600 137
5½	.....	.....	.....		2.75	100	1200 111
6	.....	.....	.....		2.90	100	1100 110
6½	.....	.....	.....		3.65	100	1000 108
7	.....	.....	.....		3.85	100	1000 114
7½	.....	.....	.....		4.00	100	800 98
8	.....	.....	.....		4.20	100	1000 128

⅝-Inch Diameter				¾-Inch Diameter			
Length Inches	Per 100	No. in Std. Pkg.	Quant- ity Wt. Lb.	Length Inches	Per 100	No. in Std. Pkg.	Quant- ity Wt. Lb.
¾	\$1.60	50	2400 105	¾	\$2.00	50	1800 125
1	1.65	50	2300 114	1	2.10	50	1700 131
1¼	1.70	50	2100 115	1½	2.20	50	1500 128
1½	1.80	50	3000 179	1¾	2.35	50	2400 224
1¾	2.00	50	2000 133	2	2.60	50	1500 153
2	2.00	50	2700 189	2½	2.60	50	2000 221
2¼	2.25	50	2000 150	3	2.90	50	1500 175
2½	2.25	50	2800 227	3½	2.90	50	2100 261
2¾	2.50	50	1600 139	4	3.20	50	900 121
3	2.50	50	2400 222	4½	3.20	50	2000 278
3¼	2.75	50	1000 99		3.50	50	1000 149
3½	2.75	50	2000 206		3.50	50	1800 279
3¾	2.95	50	1000 109		3.80	50	900 149
4	2.95	50	1800 204		3.80	50	1600 275
4¼	3.40	50	1000 120		4.10	50	800 143
4½	3.40	50	1600 200		4.10	50	1200 224
5	3.60	50	1200 162		4.50	50	1200 241
5½	3.85	50	900 131		4.80	50	900 196
6	4.05	50	900 141		5.10	50	1000 234
6½	4.90	50	600 102		6.30	50	700 175
7	5.15	50	800 144		6.65	50	800 212
7½	5.35	50	500 97		6.95	50	500 141
8	5.60	50	700 141		7.30	50	700 207
8½	.....	.....	.....		7.60	50	400 127
9	6.05	50	500 114		7.95	50	500 165
9½		8.25	50	300 106
10	6.50	50	500 125		8.60	50	600 216
11		9.30	50	300 120
12		10.00	50	250 108

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Steel Carriage Bolts

With American Standard Regular Square Nuts

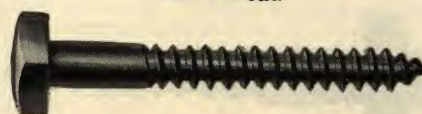


Cut Thread

1/4-Inch Diameter					1/2-Inch Diameter				
Length Inches	Per 100	No. in Std. Pkg.	STANDARD CONTAINER Approx. Quan- tity	Wt. Lb.	Per 100	No. in Std. Pkg.	STANDARD CONTAINER Approx. Quan- tity	Wt. Lb.	
1	\$3.50	50	900	104	\$4.25	50	800	126	
1 1/4	3.60	50	700	87	4.40	50	600	104	
1 1/2	3.75	50	900	121	4.60	50	1000	185	
1 3/4	4.05	50	600	88	4.95	50	600	121	
2	4.05	50	1000	152	4.95	50	1000	214	
2 1/4	4.40	50	600	99	5.35	50	700	156	
2 1/2	4.40	50	1000	172	5.35	50	1000	237	
2 3/4	4.75	50	600	111	5.75	50	600	151	
3	4.75	50	900	177	5.75	50	1000	264	
3 1/4	....	..	...	...	6.15	50	400	114	
3 1/2	5.10	50	800	174	6.15	50	900	263	
3 3/4	....	..	...	...	6.55	50	400	125	
4	5.40	50	800	191	6.55	50	800	256	
4 1/2	5.75	50	600	155	6.95	50	600	210	
5	6.10	50	600	168	7.35	50	600	226	
5 1/2	6.45	50	450	137	7.80	50	500	204	
6	6.80	50	500	161	8.20	50	600	258	
6 1/2	8.25	50	400	137	9.75	50	400	186	
7	8.70	50	400	146	10.20	50	500	246	
7 1/2	9.15	50	300	118	10.65	50	400	209	
8	9.60	50	300	124	11.10	50	400	219	
8 1/2	....	..	...	...	12.05	25	400	233	
9	10.50	50	300	128	12.50	25	300	183	
9 1/2	....	..	...	...	12.95	25	250	162	
10	11.40	50	200	103	13.40	25	350	234	
10 1/2	....	..	...	...	14.30	25	200	141	
11	....	..	...	...	14.30	25	200	147	
11 1/2	....	..	...	...	15.20	25	200	152	
12	....	..	...	...	15.20	25	200	158	
13	....	..	...	...	16.10	..	200	170	
14	....	..	...	...	17.00	..	200	182	
15	....	..	...	...	17.90	..	200	193	
16	....	..	...	...	18.80	..	200	205	
18	....	..	...	...	20.60	..	200	227	
3/8-Inch Diameter					3/8-Inch Diameter				
1 1/2	\$8.60	25	800	249	\$13.10	..	400	213	
2	9.10	25	600	211	13.75	..	350	208	
2 1/2	9.60	25	550	218	....	..	...	...
2 3/4	10.10	25	500	208	14.40	..	300	197	
3	10.10	25	450	199	15.05	..	275	198	
3 1/2	10.60	25	400	196	15.70	..	250	196	
4	11.10	25	400	211	16.35	..	225	191	
4 1/2	11.60	25	300	172	17.00	..	200	163	
5	12.10	25	300	184	17.65	..	200	195	
5 1/2	12.60	25	300	197	18.30	..	175	183	
6	13.10	25	250	176	18.95	..	150	169	
6 1/2	13.60	25	250	186	19.60	..	150	178	
7	14.10	25	225	182	20.25	..	150	185	
7 1/2	14.60	25	200	167	20.90	..	125	164	
8	15.10	25	200	175	21.50	..	125	172	
8 1/2	....	..	...	...	....	..	...	...
9	16.10	..	150	146	22.20	..	125	179	
10	17.10	..	150	157	23.50	..	100	155	
11	18.10	..	100	116	....	..	...	...
12	19.10	..	100	124	....	..	...	...

Steel Lag Screws or Bolts

With American Standard Regular Square Heads



Gimlet Points

Cut Thread

3/4-Inch Diameter					1-Inch Diameter				
Length Inches	Per 100	No. in Std. Pkg.	STANDARD CONTAINER Approx. Quan- tity	Wt. Lb.	Per 100	No. in Std. Pkg.	STANDARD CONTAINER Approx. Quan- tity	Wt. Lb.	
1	\$2.35	100	5200	95	\$2.35	100	4600	141	
1 1/4	2.35	100	4200	92	2.35	100	3600	131	
1 1/2	2.15	100	3800	90	2.15	100	4200	169	
1 3/4	2.35	100	3200	88	2.35	100	2800	129	
2	2.35	100	3600	106	2.35	100	2500	125	
2 1/2	2.55	100	3600	132	2.55	100	3000	180	
3	2.80	100	3300	135	2.80	100	2200	150	
3 1/2	3.05	100	2600	126	3.05	100	1600	127	
4	3.30	100	2400	126	3.30	100	1200	105	
4 1/2	3.55	..	2400	142	3.55	100	1200	118	
5	3.80	..	2000	128	3.80	100	1000	107	
5 1/2	....	..	....	....	4.05	100	1000	117	
6	4.35	..	1500	115	4.35	100	900	112	
3/8-Inch Diameter					3/8-Inch Diameter				
1	\$2.85	50	2100	100	....	..	....	....
1 1/4	2.85	50	2300	129	....	..	....	....
1 1/2	2.60	50	2200	131	\$3.90	50	1600	137	
1 3/4	2.85	50	1800	123	....	..	....	....
2	2.85	50	3000	215	3.55	50	1200	124	
2 1/2	3.10	50	2100	185	3.90	50	1000	123	
3	3.40	50	2100	210	4.30	50	1000	140	
3 1/2	3.70	50	1500	169	4.70	50	700	113	
4	4.00	50	1600	197	5.10	50	600	107	
4 1/2	4.30	50	1200	167	5.50	50	500	101	
5	4.65	50	1200	179	5.90	50	500	108	
5 1/2	5.00	50	700	117	....	..	....	....
6	5.35	50	900	159	6.70	50	500	125	
7	6.05	50	900	183	....	..	....	....
8	6.75	50	800	184	....	..	....	....
1/2-Inch Diameter					1/2-Inch Diameter				
1 1/2	\$4.85	50	900	109	....	..	....	....
2	4.45	50	1100	156	....	..	....	....
2 1/2	4.85	50	1200	201	\$7.40	..	....	....
3	5.30	50	1100	210	6.85	25	400	117	
3 1/2	5.75	50	800	174	7.50	25	600	196	
4	6.20	50	900	212	8.15	25	500	187	
4 1/2	6.65	50	700	185	8.80	25	600	240	
5	7.10	50	600	171	9.45	25	300	135	
5 1/2	7.55	50	400	126	10.10	25	400	193	
6	8.00	50	500	167	10.75	25	375	197	
6 1/2	8.45	50	400	146	11.40	25	400	222	
7	8.90	50	500	190	....	..	....	....
8	9.80	50	400	173	12.70	25	375	235	
9	10.70	50	300	145	14.00	25	250	176	
10	11.60	50	300	160	15.20	25	225	175	
11	....	..	....	....	16.40	..	250	217	
12	....	..	....	....	17.70	..	250	236	
3/4-Inch Diameter					19.00	..	200	206	
1-Inch Diameter					1-Inch Diameter				
Lgth. In.	Per 100	No. in Std. Pkg.	STANDARD CONTAINER Approx. Quan- tity	Wt. Lb.	Lgth. In.	Per 100	No. in Std. Pkg.	STANDARD CONTAINER Approx. Quan- tity	Wt. Lb.
2 1/2	\$11.00	..	250	113	7	\$19.10	..	250	263
3	11.90	..	350	175	8	20.90	..	200	213
3 1/2	12.80	..	300	169	9	22.65	..	200	234
4	13.70	..	400	244	10	24.40	..	175	226
4 1/2	14.60	..	250	169	11	26.25	..	150	214
5	15.50	..	300	218	12	28.10	..	150	229
6	17.30	..	225	186

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Steel Hanger Screws

Cut Thread With American Standard Regular Square Nuts, Gimlet Points

Effective April 1, 1927



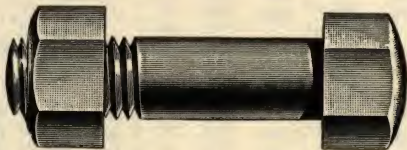
Price, per 100

Length Inches	DIAMETER, INCHES							
	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1
2	\$3.00	\$3.40	\$4.25	\$5.20	\$6.50	\$8.70		
2 1/2	3.15	3.60	4.55	5.60	7.00	9.35	\$14.50	
3	3.30	3.80	4.85	6.00	7.50	10.00	15.35	
3 1/2	3.45	4.00	5.15	6.40	8.00	10.65	16.20	\$25.00
4	3.60	4.20	5.45	6.80	8.50	11.30	17.05	26.30
4 1/2	3.75	4.40	5.75	7.20	9.00	11.95	17.90	27.60
5	3.90	4.60	6.05	7.60	9.50	12.60	18.75	28.90 \$38.00
5 1/2	4.05	4.80	6.35	8.00	10.00	13.25	19.60	30.20 39.90
6	4.20	5.00	6.65	8.40	10.50	13.90	20.45	31.50 41.80
6 1/2			6.95	8.80	11.00	14.55	21.30	32.80 43.70
7			7.25	9.20	11.50	15.20	22.15	34.10 45.60
7 1/2			7.85	9.60	12.00	15.85	23.00	35.40 47.50
8				10.00	12.50	16.50	23.85	36.70 49.40
9				10.80	13.50	17.80	25.55	39.30 53.20
10					14.50	19.10	27.25	41.90 57.00
11						20.40	28.95	44.50 60.80
12							21.70	30.65 47.10 64.60

Intermediate lengths take next higher list.

Steel Coupling Bolts

With American Heavy Semi-Finished Hexagon Nuts



Milled to size and under head.

Diam. of Bolt, in.	Per 100 Pieces							
	1/2	5/8	3/4	7/8	1	1 1/8	1 1/4	
Width of Head, in.	1/2	5/8	3/4	7/8	1	1 1/8	1 1/4	
Thickness of Head, in.	1/2	5/8	3/4	7/8	1	1 1/8	1 1/4	
Length Under Head to Extreme Pt., in.								
2	\$20.00	\$25.00						
2 1/4	20.50	25.75	\$32.00					
2 1/2	21.00	26.50	32.00	\$38.75				
2 3/4	21.50	27.25	33.00	39.75	\$56.00			
3	22.00	28.00	34.00	40.75	56.00	\$70.00		
3 1/4	22.50	28.75	35.00	41.75	57.00	71.50	\$100.00	
3 1/2	23.00	29.50	36.00	42.75	58.00	73.00	100.00	
3 3/4	23.50	30.25	37.00	43.75	59.00	74.50	102.50	
4	24.00	31.00	38.00	44.75	60.00	76.00	105.00	
4 1/4	24.50	31.75	39.00	45.75	61.00	77.50	107.50	
4 1/2	25.00	32.50	40.00	46.75	62.00	79.00	110.00	
4 3/4	25.50	33.25	41.00	47.75	63.00	80.50	112.50	
5		34.00	42.00	48.75	64.00	82.00	115.00	
5 1/4			43.00	49.75	65.00	83.50	117.50	
5 1/2				50.75	66.00	85.00	120.00	
5 3/4					67.00	86.50	122.50	
6						88.00	125.00	

Plow and Cultivator Bolts

With American Standard Regular Square Nuts



No. 1, Key Head



No. 2, Round Head



No. 3, Round Head, Square Neck



No. 7, Reverse Key Round Head

Intermediate lengths take next higher list.

*Gross extras added for No. 4, square head, countersunk.

†Standard with No. 3 head only.

‡Standard with Nos. 3, 4 and 7 heads only.

§Standard with Nos. 3 and 4 heads only.

||Not considered standard with No. 2 head.

¶Not considered standard with No. 7 head.

**Standard with Nos. 1, 2 and 3 heads only.

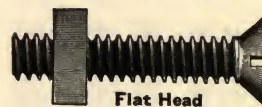
††Not considered standard with No. 4 head.

‡‡Standard with No. 2 head only.

Length Inches	Mfr's. Std. List Effective April 1, 1927—Per 100					
	1/4	3/8	1/2	5/8	3/4	
3/4	†\$2.05	†\$2.45				
1	†2.15	2.60	||\$3.55	**\$5.00		
1 1/4	†2.30	2.75	3.75	5.25		
1 1/2	†2.45	2.90	4.00	5.50	**\$10.80	††\$15.70
1 3/4	†2.60	3.05	4.25	5.75	††11.20	††16.40
2	†2.75	3.20	4.50	6.00	11.60	**17.10
2 1/4		†3.35	†4.75	†6.30	§12.00	†17.80
2 1/2		3.50	||\$5.00	6.60	12.40	**18.50
2 3/4		§3.75	||\$5.30	†6.90	†12.80	†19.20
3		||\$4.00	||\$5.65	††7.25	†13.20	**19.90
3 1/2				†8.25	†14.00	†22.20
*	.50	.60	.75	.95	2.00	4.00

The sizes and styles listed above, except as noted, are considered standard. All other sizes are non-standard, prices on request.

Steel Stove Bolts



Flat Head



Round Head

Length Inches	DIAMETER, INCHES					
	1/8 Per 100	5/32 Per 100	3/16 Per 100	1/4 Per 100	5/16 Per 100	3/8 Per 100
3/8	\$.86	\$.95	\$ 1.00			
1/2	.88	.97	1.04	\$ 1.55		
5/8	.90	.99	1.08	1.60		
3/4	.92	1.02	1.12	1.65	\$ 2.60	\$ 3.80
7/8	*.95	1.06	1.16	1.70	2.70	3.90
1	1.00	1.10	1.20	1.75	2.80	4.00 \$9.30
1 1/8	*1.05	1.15	1.25	1.80	2.90	
1 1/4	1.10	1.20	1.30	1.90	3.00	4.30 9.70
1 1/2	1.20	1.30	1.40	2.05	3.20	4.60 10.30
1 3/4	*1.30	1.45	1.55	2.20	3.50	4.90
2	*1.45	1.60	1.75	2.40	3.80	5.20 11.60
2 1/4			1.90	2.65	4.10	5.60
2 1/2			2.10	2.90	4.40	6.00 13.20
2 3/4			2.25	3.15	4.70	
3			2.45	3.40	5.00	6.80 14.90
3 1/2			2.80	3.90	5.50	7.60
4			3.15	4.40	6.20	8.40
4 1/2			3.50	4.85	6.90	9.30
5			3.85	5.35	7.60	10.20
6			4.60	6.30	9.00	12.00

Add for Hex Nuts \$.08 .10 .12 .15 .21 .30 .70

The sizes as listed above are considered standard; all other sizes are non-standard, prices on request.

*Standard with round head only.

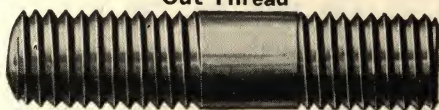
Steel Elevator Bolts

With Large Countersunk Heads, Finished Points
and American Standard Regular Square Nuts



Length Inches	Per 100 DIAMETER, INCHES		
	1/4	5/16	3/8
3/4	\$3.30	\$4.50	.....
7/8	3.45	4.75	.....
1	3.45	4.75	\$6.40
1 1/4	3.60	5.00	6.80
1 1/2	3.75	5.25	7.20
1 3/4	3.90	5.50	7.60
2	4.05	5.75	8.00
2 1/2	.....	.....	8.80
3	.....	.....	9.60

The sizes listed above are considered Standard in accordance with Recommendation No. R169-45, 10-1-45; all other sizes are non-standard, prices on request.

Milled Steel Studs
Cut Thread

Nut End

Tap End

Made steam tight on tap end, unless otherwise specified.
When ordering, specify diameter first.

Diam. in Threads to In.	Per 100						
	3/8	7/16	1/2	5/8	3/4	7/8	1
1	\$5.40	.....	\$7.05	.....	.....	.....	.....
1 1/4	5.40	.....	7.05	.....	.....	.....	.....
1 1/2	5.60	\$6.75	7.40	.....	.....	.....	.....
1 3/4	5.85	7.00	7.70	\$10.40	.....	.....	.....
2	6.10	7.20	8.05	10.75	.....	.....	.....
2 1/4	6.35	.....	8.35	11.05	\$15.95	.....	.....
2 1/2	6.60	7.70	8.65	11.40	16.45	.....	.....
2 3/4	6.80	.....	9.00	11.75	17.00	.....	.....
3	7.05	8.20	9.30	12.05	17.50	\$26.00	\$34.00
3 1/4	.....	.....	.....	.....	18.05	.....	.....
3 1/2	8.65	8.65	9.95	12.75	18.60	28.00	37.00
4	.....	.....	10.60	13.40	19.60	30.00	40.00
4 1/4	.....	.....	.....	.....	.....	30.80	.....
4 1/2	.....	.....	10.90	13.90	20.40	31.50	42.00
4 3/4	.....	.....	.....	.....	.....	32.60	.....
5	.....	.....	11.55	14.40	21.20	33.00	44.00
5 1/2	.....	.....	.....	.....	22.00	34.50	46.00
6	.....	.....	15.35	22.75	36.00	48.00	.....
*Add for Each 1/4 In... Qty. per Pkg....	.80	1.00	1.25	2.00	2.50	4.00	5.50
	50	25	20	16	.....	.....	.....

*For lengths not exceeding 6 inches.

Length of Threads on Regular Studs

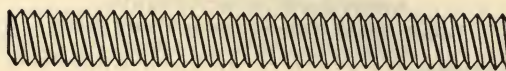
N—Nut End

T—Tap End

Length, Inches	DIAMETER, INCHES											
	3/8		7/16		1/2		5/8		3/4		7/8	
1	N	T	N	T	N	T	N	T	N	T	N	T
1 1/4	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
1 1/2	5/8	1 1/2	5/8	1 1/2	5/8	1 1/2	5/8	1 1/2	5/8	1 1/2	5/8	1 1/2
1 3/4	5/8	1 1/2	3/4	9/16	3/4	5/8	3/4	5/8	3/4	5/8	3/4	5/8
2	5/8	1 1/2	3/4	9/16	3/4	5/8	3/4	5/8	3/4	5/8	3/4	5/8
2 1/4	3/4	1 1/2	3/4	9/16	3/4	5/8	3/4	5/8	3/4	5/8	3/4	5/8
2 1/2	3/4	1 1/2	3/4	9/16	3/4	5/8	3/4	5/8	3/4	5/8	3/4	5/8
2 3/4	3/4	1 1/2	3/4	9/16	3/4	5/8	3/4	5/8	3/4	5/8	3/4	5/8
3	3/4	1 1/2	3/4	9/16	3/4	5/8	3/4	5/8	3/4	5/8	3/4	5/8
3 1/4	.....	.....	1	1 1/2	1	1 1/2	1	1 1/2	1	1 1/2	1	1 1/2
3 1/2	.....	.....	1	1 1/2	1	1 1/2	1	1 1/2	1	1 1/2	1	1 1/2
4	.....	.....	1	1 1/2	1	1 1/2	1	1 1/2	1	1 1/2	1	1 1/2
4 1/4	.....	.....	1 1/4	7/8	1 1/4	7/8	1 1/2	1 1/8	1 1/2	1 1/8	1 1/2	1 1/8
4 1/2	.....	.....	1 1/4	7/8	1 1/4	7/8	1 1/2	1 1/8	1 1/2	1 1/8	1 1/2	1 1/8
4 3/4	.....	.....	1 1/4	7/8	1 1/4	7/8	1 1/2	1 1/8	1 1/2	1 1/8	1 1/2	1 1/8
5	.....	.....	1 1/4	7/8	1 1/2	7/8	1 1/2	1 1/8	1 1/2	1 1/8	1 1/2	1 1/8
5 1/2	.....	.....	.....	.....	1 1/2	7/8	1 1/2	1 1/8	1 1/2	1 1/8	1 1/2	1 1/8
6	.....	.....	.....	.....	1 1/2	7/8	1 1/2	1 1/8	1 1/2	1 1/8	1 1/2	1 1/8

Milled studs in Coarse (U.S.S.) thread only are considered standard. The sizes listed above are considered standard.

Paine Threaded Rod



Precision threaded. Two-foot lengths standard. Special threads and lengths furnished in either steel or brass. Shipped plain without plating or nuts. Bulk packed.

Screw Diam. and Threads	Steel per 100 Feet	Brass per 100 Feet	Thrds. per Inch	Size Wire In.	Wt. per 100 Feet
1/8-(6-32)	\$8.50	\$15.50	32	No. 6	3 1/2
1/8-(8-32)	9.10	18.00	32	No. 8	5
3/16-(10-24)	9.85	23.00	24	No. 10	7 1/2
3/16-(10-32)	9.85	23.00	32	No. 10	7 1/2
1/2-24	12.40	30.25	24	No. 12	9 1/2
1/4-20	14.75	35.00	20	1/4	12 1/2
1/4-28	16.25	38.50	28	1/4	12 1/2
5/16-18	18.50	51.50	18	5/16	20
3/8-16	23.80	65.00	16	3/8	27 1/2
7/16-14	32.50	.....	14	7/16	40
1/2-13	39.15	112.00	13	1/2	53
5/8-11	54.80	165.00	11	5/8	74
3/4-10	80.50	240.00	10	3/4	120
7/8-9	116.00	.....	9	7/8	167
1-8	143.65	.....	8	1	220

No. 250 Paine Flattened End Machine Screws



Zinc plated.

Furnished without stove bolts.

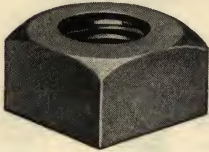
Bolt Diam.	Bolt Thrd.	Hole Diam.	Wt. Lb. per 100	Bolt Diam.	Bolt Thrd.	Hole Diam.	Wt. Lb. per 100
10-24	2	1 5/32	11	5/16-18	5	37/8	83
10-24	3	2 5/32	17	5/16-18	6	4 7/8	100
10-24	4	3 5/32	23	3/8-16	2	7/8	49
10-24	5	4 5/32	29	3/8-16	3	1 7/8	72
10-24	6	5 5/32	35	3/8-16	4	2 7/8	98
1/4-20	2	1 7/8	22	3/8-16	5	3 7/8	122
1/4-20	3	1 7/8	32	3/8-16	6	4 7/8	147
1/4-20	4	2 7/8	42	1/2-13	2	7/8	87
1/4-20	5	3 7/8	52	1/2-13	3	1 7/8	131
1/4-20	6	4 7/8	62	1/2-13	4	2 7/8	175
5/16-18	2	1 7/8	33	1/2-13	5	3 7/8	219
5/16-18	3	1 7/8	50	1/2-13	6	4 7/8	263
5/16-18	4	2 7/8	67	.....	.....	.....	.....

Pressed Steel or Brass
Wing Nuts

Size No. and Thrds., In.	Width Across Wings, In.	Overall Height Inches	Steel per 100	Brass per 100
4-36	2 1/32	2 1/64	\$2.80	\$4.50
6-32	2 1/32	2 1/64	2.80	4.50
6-40	2 1/32	2 1/64	2.80	4.50
8-32	2 1/32	1 3/32	2.80	4.50
8-36	2 1/32	1 3/32	2.80	4.50
10-24	2 1/32	1 3/32	2.80	4.50
10-32	2 1/32	1 3/32	2.80	4.50
12-24	2 1/32	1 3/32	2.80	4.50
1/4"-20	1 1/32	1 1/2	3.00	5.50
1/4"-28	1 1/32	1 1/2	3.00	5.50
5/16"-18	1 1/32	1 1/2	3.70	8.50
5/16"-24	1 1/32	1 1/2	3.70	8.50
3/8"-16	1 1/32	1 1/2	5.25	12.75
3/8"-24	1 1/32	1 1/2	5.25	12.75
7/16"-14	1 1/32	1 1/2	15.00	28.00
1/2"-13	1 1/32	1 1/2	15.00	28.00
4-36	2 1/32	1 3/32	3.25	.....
6-32	2 1/32	1 3/32	3.25	.....

Square Nuts

American Standard Regular
Tapped Unified National Coarse Thread Series



For nuts with other tapping, prices upon application. Blank nuts, prices upon application.

Regular cold punched square nuts prices upon application.

Size Bolt and Threads per Inch	Bulk per 100	Pack-aged per 100	Width Across Flats In.	Thick-ness In.	Pkg. Qty.	Keg Qty.	Wt. Lb. per 100
1/4-20	\$.33	\$.38	7/16	7/32	100	23000	.93
5/16-18	.51	.59	9/16	17/64	100	11000	1.60
3/8-16	.67	.77	5/8	21/64	100	7700	2.65
7/16-14	1.05	1.21	3/4	3/8	50	4000	3.97
1/2-13	1.45	1.67	13/16	7/16	50	4000	5.83
9/16-12	2.10	2.42	7/8	1/2	50	2500	7.95
5/8-11	2.50	2.88	1	35/64	50	2000	10.70
3/4-10	3.50	4.03	1 1/8	21/32	50	1300	15.40
7/8-9	5.85	6.73	1 5/16	49/64	25	850	24.60
1-8	8.00	9.20	1 1/2	7/8	25	650	36.20
1 1/8-7	11.60	13.34	1 11/16	1	25	475	51.00
1 1/4-7	15.20	17.48	1 7/8	1 1/32	20	340	72.70
1 3/8-6	20.50	.....	2 1/16	1 13/64	..	240	96.90
1 1/2-6	27.50	.....	2 1/4	1 15/16	..	170	125.00
1 5/8-5 1/2	40.00	.....	2 7/16	1 27/64	..	125	161.00
1 3/4-5	51.00	.....	2 5/8	1 17/32	..	100	199.00
2-4 1/2	75.00	.....	3	1 3/4	..	60	295.50
2 1/4-4 1/2	140.00	.....	3 3/8	1 31/32	..	50	418.00
2 1/2-4	195.00	.....	3 3/4	2 3/16	..	45	575.00
2 3/4-4	244.00	.....	4 1/8	2 13/32	..	35	770.00
3-4	351.00	.....	4 1/2	2 5/8	..	25	984.00

Hexagon Hot Pressed Nuts

American Standard Regular
Tapped Unified National Coarse Thread Series

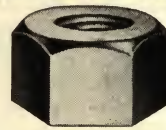


For nuts with other tapping, prices upon application. Blank nuts are available, prices upon application.

Size Bolt and Threads per Inch	Bulk per 100	Pack-aged per 100	Width Across Flats In.	Thick-ness In.	Pkg. Qty.	Keg Qty.	Wt. Lb. per 100
1/4-20	\$.40	\$.46	7/16	7/32	100	24000	.77
5/16-18	.70	.81	9/16	17/64	100	12000	1.42
3/8-16	1.00	1.15	5/8	21/64	100	8000	2.21
7/16-14	1.40	1.61	3/4	3/8	50	4500	3.40
1/2-13	1.90	2.19	13/16	7/16	50	4500	4.84
9/16-12	2.40	2.76	7/8	1/2	50	3200	6.61
5/8-11	2.90	3.34	1	35/64	50	2300	8.87
3/4-10	3.85	4.43	1 1/8	21/32	50	1500	12.70
7/8-9	6.05	6.96	1 5/16	49/64	25	950	19.90
1-8	8.25	9.49	1 1/2	7/8	25	725	29.40
1 1/8-7	12.80	14.72	1 11/16	1	25	500	41.90
1 1/4-7	16.90	19.44	1 7/8	1 1/32	20	375	59.30
1 3/8-6	22.80	.....	2 1/16	1 15/64	..	275	78.80
1 1/2-6	30.00	.....	2 1/4	1 15/16	..	220	101.50
1 5/8-5 1/2	44.40	.....	2 7/16	1 27/64	..	170	128.80
1 3/4-5	57.00	.....	2 5/8	1 17/32	..	130	162.00
2-4 1/2	83.00	.....	3	1 3/4	..	80	240.50
2 1/4-4 1/2	119.00	.....	3 3/8	1 31/32	..	60	339.00
2 1/2-4	166.00	.....	3 3/4	2 3/16	..	50	466.00
2 3/4-4	221.00	.....	4 1/8	2 13/32	..	35	614.00
3-4	330.00	.....	4 1/2	2 5/8	..	25	790.00

Hexagon Semi-Finished Nuts

American Standard Heavy
Tapped Unified National Coarse Thread Series

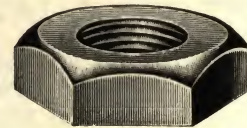


For nuts with other tapping, prices upon application.

Size Bolt and Threads per Inch	Bulk per 100	Pack-aged per 100	Width Across Flats In.	Thick-ness In.	Pkg. Qty.	Keg Qty.	Wt. Lb. per 100
1/4-20	\$.75	\$.86	1/2	15/64	100	15000	1.20
5/16-18	1.00	1.15	19/32	19/64	100	9000	2.02
3/8-16	1.35	1.55	11/16	23/64	100	6000	3.20
7/16-14	1.90	2.19	23/32	27/64	50	3600	4.70
1/2-13	2.40	2.76	7/8	31/64	50	3300	6.70
9/16-12	3.30	3.80	15/16	35/64	50	2300	9.00
5/8-11	4.00	4.60	1 1/16	39/64	50	1800	11.90
3/4-10	5.70	6.56	1 1/4	47/64	50	1000	19.20
7/8-9	8.75	10.06	1 7/16	55/64	25	650	29.20
1-8	12.00	13.80	1 5/8	63/64	25	500	42.30
1 1/8-7	16.70	19.21	1 13/16	1 7/64	25	350	58.50
1 1/4-7	22.70	26.11	2	1 17/32	20	270	81.20
1 3/8-6	32.00	.....	2 3/16	1 11/32	..	200	105.30
1 1/2-6	41.90	.....	2 3/8	1 15/32	..	150	136.50
1 5/8-5 1/2	61.20	.....	2 9/16	1 19/32	..	120	171.00
1 3/4-5	80.90	.....	2 3/4	1 23/32	..	95	212.00
1 7/8-5	100.00	.....	2 15/16	1 27/32	..	80	256.00
2-4 1/2	118.00	.....	3 1/8	1 31/32	..	65	308.50
2 1/4-4 1/2	183.50	.....	3 1/2	2 13/32	..	48	430.00
2 1/2-4	274.00	.....	3 3/8	2 23/64	..	42	590.00
2 3/4-4	358.00	.....	4 1/4	2 45/64	..	25	764.00
3-4	475.00	.....	4 5/8	2 61/64	..	20	969.00
3 1/4-4	693.00	.....	5	3 3/16	..	15	1218.00
3 1/2-4	875.00	.....	5 3/8	3 7/16	..	12	1535.00
3 3/4-4	1093.00	.....	5 3/4	3 11/16	..	10	1890.00
4-4	1300.00	.....	6 1/8	3 15/16	..	8	2320.00

Hexagon Semi-Finished Jam Nuts

American Standard Heavy
Tapped Unified National Coarse Thread Series



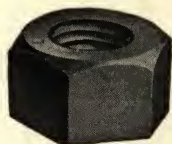
For nuts with other tapping, prices upon application.

Size Bolt and Threads per Inch	Bulk per 100	Pack-aged per 100	Width Across Flats In.	Thick-ness In.	Pkg. Qty.	Keg Qty.	Wt. Lb. per 100
1/4-20	\$.70	\$.81	1/2	11/64	100	22000	.92
5/16-18	.90	1.04	19/32	13/64	100	12500	1.43
3/8-16	1.25	1.44	11/16	15/64	100	9000	2.15
7/16-14	1.75	2.01	25/32	17/64	50	5100	3.07
1/2-13	2.10	2.42	7/8	19/64	50	5300	4.28
9/16-12	2.90	3.34	15/16	23/64	50	3600	5.56
5/8-11	3.40	3.91	1 1/16	23/64	50	3000	7.33
3/4-10	5.10	5.87	1 1/4	27/64	50	1800	11.40
7/8-9	7.50	8.63	1 7/16	31/64	25	1200	17.10
1-8	10.00	11.50	1 5/8	35/64	25	850	24.20
1 1/8-7	14.50	16.68	1 13/16	39/64	25	600	33.00
1 1/4-7	20.50	23.58	2	43/32	20	440	50.00
1 3/8-6	28.75	.....	2 3/16	47/32	..	350	64.50
1 1/2-6	37.00	.....	2 3/8	51/32	..	260	81.30
1 5/8-5 1/2	61.20	.....	2 9/16	55/32	..	220	100.70
1 3/4-5	80.90	.....	2 3/4	59/32	..	160	123.50
1 7/8-5	100.00	.....	2 15/16	63/32	..	140	148.00
2-4 1/2	118.00	.....	3 1/8	67/32	..	110	178.50

Hexagon Semi-Finished Nuts

American Standard Light (S.A.E.)

Tapped Unified National Fine Thread Series



For nuts with other tapping, prices upon application.

Size Bolt and Threads per Inch	Bulk per 100	Pack- aged per 100	Width Across Flats In.	Thick- ness In.	Pkg. Qty.	Keg Qty.	Wt. Lb. per 100
1/4 —28	\$.65	\$.75	7/16	7/32	100	20000	.72
5/16 —24	.75	.86	1/2	17/64	100	14000	1.06
3/8 —24	.95	1.09	9/16	21/64	100	8500	1.53
7/16 —20	1.30	1.50	5/8	3/8	50	9000	2.10
1/2 —20	1.65	1.90	3/4	7/16	50	5000	3.60
9/16 —18	2.50	2.88	7/8	31/64	50	3300	5.62
5/8 —18	3.20	3.68	1 1/16	35/64	50	2500	6.92
3/4 —16	5.00	5.75	1 1/8	21/32	50	1600	9.90
7/8 —14	8.00	9.20	1 1/4	49/64	25	950	16.20
1 —14	11.60	13.34	1 7/8	7/8	25	650	24.50
1 1/8 —12	16.50	18.98	1 5/8	63/64	25	500	35.50
1 1/4 —12	22.50	25.88	1 3/4	1 3/32	20	350	51.00
1 3/8 —12	31.50	.....	2	1 13/64	...	270	68.30
1 1/2 —12	41.00	.....	2 3/16	1 5/16	...	200	88.80

Hexagon Semi-Finished Jam Nuts

American Standard Light (S.A.E.)

Tapped Unified National Fine Thread Series



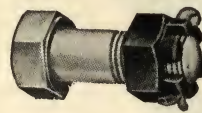
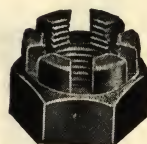
For nuts with other tappings, prices upon application.

Size Bolt and Threads per Inch	Bulk per 100	Pack- aged per 100	Width Across Flats In.	Thick- ness In.	Pkg. Qty.	Keg Qty.	Wt. Lb. per 100
1/4 —28	\$.60	\$.69	7/16	5/32	100	28000	.53
5/16 —24	.70	.81	1/2	3/16	100	18000	.76
3/8 —24	.85	.98	9/16	7/32	100	10500	1.03
7/16 —20	1.20	1.38	5/8	1/4	50	13000	1.39
1/2 —20	1.50	1.73	3/4	5/16	50	8000	2.59
9/16 —18	2.25	2.59	7/8	5/16	50	5000	3.67
5/8 —18	2.90	3.34	1 1/16	3/8	50	4000	4.82
3/4 —16	4.50	5.18	1 1/8	3/8	50	3000	5.76
7/8 —14	7.00	8.05	1 1/4	7/16	25	1800	9.00
1 —14	9.60	11.04	1 7/8	1/2	25	1200	14.10
1 1/8 —12	14.00	16.10	1 5/8	9/16	25	750	20.50
1 1/4 —12	20.00	23.00	1 3/4	5/8	20	640	29.70
1 3/8 —12	28.00	.....	2	3/4	...	440	41.50
1 1/2 —12	36.00	.....	2 3/16	1 1/16	...	350	55.60

Hexagon Semi-Finished Castellated and Thick Slotted Nuts

American Standard Light

Tapped Unified National Fine Thread Series



For nuts with other tapping, prices upon application.

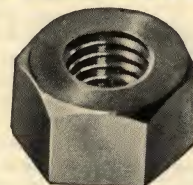
Size Bolt and Threads per Inch	Bulk per 100	Pack- aged per 100	Width Across Flats In.	Thick- ness In.	Slot Width In.	Slot Depth In.	Pkg. Qty.	Keg Qty.	Wt. Lb. Cast- el- lated	Wt. Lb. Slot- ted
1/4 —28	\$1.15	\$1.32	7/16	9/32	5/64	3/32	100	16000	.75	.80
5/16 —24	1.35	1.55	1/2	21/64	3/32	3/32	100	11500	1.10	1.18
3/8 —24	1.60	1.84	9/16	13/32	1/8	1/8	100	6000	1.52	1.63
7/16 —20	2.00	2.30	5/8	29/64	1/8	5/32	50	7500	2.11	2.21
1/2 —20	2.85	3.28	3/4	9/16	5/32	5/32	50	3800	3.83	4.09
9/16 —18	4.20	4.83	7/8	39/64	3/16	3/16	50	3000	5.92	6.25
5/8 —18	4.90	5.64	1 1/16	23/32	3/16	7/32	50	1900	7.11	8.08
3/4 —16	7.80	8.97	1 1/8	13/16	3/16	1/4	50	1200	10.60	11.20
7/8 —14	10.75	12.36	1 1/4	29/32	3/16	1/4	25	850	17.10	17.80
1 —14	16.00	18.40	1 1/2	1	1/4	9/32	25	550	25.30	26.60
*1 1/8 —12	22.50	25.88	1 5/8	1 5/32	1/4	1 1/32	25	440	37.30	38.60
*1 1/4 —12	30.00	34.50	1 3/4	1 13/16	5/16	3/8	20	325	52.50	55.00
*1 3/8 —12	40.00	.....	2	1 3/8	5/16	3/8	...	240	71.00	74.40
*1 1/2 —12	50.00	.....	2 3/16	1 1/2	5/8	7/16	...	175	91.70	95.80

*Regularly supplied castellated only.

American Standard Heavy Brass Nuts

Regular and Jam Sizes

National Coarse Thread—Class 2—Semi-Finished



Semi-finished hexagon brass nuts are milled from the bar, accurate and well finished.

Nuts made to special dimensions or tapping furnished when ordered.

DIAM. & THRS. PER INCH	Per 100	Width Across Flats, In.	THICK. IN. Full Nut	Jam Nut	Full Nut	Jam Nut
3/16 —24	\$1.40	3/8	11/64	...	100	100
1/4 —20	*2.40	1/2	15/64	11/64	100	100
5/16 —18	*3.20	19/32	19/64	15/64	100	100
3/8 —16	*5.20	14/16	23/64	15/64	100	100
7/16 —14	*7.20	3/4	27/64	17/64	50	100
1/2 —13	*9.60	7/8	31/64	19/64	50	100
9/16 —12	*15.00	1 1/16	35/64	21/64	50	50
5/8 —11	*17.00	1 1/8	39/64	23/64	50	50
3/4 —10	*27.00	1 1/4	47/64	27/64	50	50
7/8 —9	*45.00	1 1/2	55/64	31/64	25	50
1 —8	*68.00	1 5/8	63/64	35/64	25	50
1 1/8 —7	*120.00	1 13/16	17/64	39/64	20	25
1 1/4 —7	*145.00	2	17/32	23/32	20	25
1 3/8 —6	*180.00	2 3/16	11/32	25/32	Bulk	Bulk
1 1/2 —6	*230.00	2 3/8	11/32	27/32	Bulk	Bulk
1 5/8 —5 1/2	280.00	2 9/16	11/32	...	Bulk	Bulk
1 3/4 —5	340.00	2 3/4	12/32	...	Bulk	Bulk
1 7/8 —5	405.00	2 7/8	12/32	...	Bulk	Bulk
2 —4 1/2	475.00	3 1/8	13/32	...	Bulk	Bulk

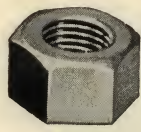
*Also stocked in jam nuts.

Brass Nuts

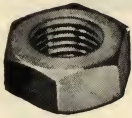
American Standard Light (S.A.E.)

Semi-Finished National Fine Thread—Class 2

Milled from the bar.



Full



Jam

Diam. Thrd. & No. per Inch	Per 100	Width across Flats Inches	NOM. THICK. INCHES		No. IN Box	
			Full Nut	Jam Nut	Full Nut	Jam Nut
1/4-28	*\$2.40	7/16	7/32	5/32	100	100
5/16-24	3.20	7/32	17/64	3/16	100	100
3/8-18	3.20	7/32	17/64	3/16	100	100
3/8-24	*5.20	9/16	21/64	1/32	100	100
7/16-16	5.20	9/16	21/64	1/32	100	100
7/16-20	*7.20	9/16	21/64	1/32	50	100
7/16-14	7.20	9/16	21/64	1/32	50	100
1/2-20	*9.60	9/16	21/64	1/32	50	100
1/2-13	9.60	9/16	21/64	1/32	50	100
5/8-18	*15.00	1 1/8	31/64	5/16	50	50
5/8-18	*17.00	1 1/8	35/64	3/8	50	50
3/4-16	*27.00	1 1/8	21/32	3/8	50	50
3/4-14	*45.00	1 1/4	49/64	7/16	25	50
1-14	*68.00	1 7/8	7/8	1/2	25	50
1 1/2-12	120.00	1 5/8	63/64	1/2	20	..

*Also stocked in jam nuts.

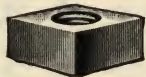
*Also stocked in jam nuts.

Stove Bolt and Machine Screw Nuts

Square or Hexagon

Steel and Brass

In Packages



For Screw Size	No. OF THREADS Coarse Fine	Steel		Brass		Width across Flats In.	Thick- ness In.
		Square per Gross	Hexagon per Gross	Square per Gross	Hexagon per Gross		
2	56 64	\$.67	\$.75	\$.90	\$.85	3/16	1/16
3	48 56	.67	.75	.90	.85	3/16	1/16
4	40 48	.62	.66	.95	.90	1/4	3/32
5	40 44	.64	.70	1.25	1.15	5/16	7/64
6	32 40	.64	.70	1.25	1.15	5/16	7/64
8	32 36	.67	.76	1.50	1.35	11/32	1/8
10	24 32	.70	.82	1.60	1.45	3/8	1/8
12	24 28	.90	1.05	2.80	2.40	7/16	5/32
1 1/4	20 28	1.00	1.20	3.20	2.70	7/16	3/16
5/16	18 24	1.60	1.90	6.30	5.20	9/16	7/32
3/8	16 24	2.20	2.60	8.40	7.00	5/8	1/4

Hexagon Brass Cap Nuts

Milled from the bar and tumbled to a bright, smooth finish. Washer faced to prevent marring work with the sharp corners. Have a slight counterbore, just sufficient to protect the first thread in plating and shipping, and yet help fast assembly.

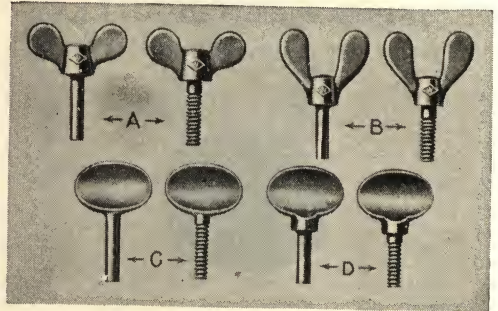


Feature unusual depth of threads, which start almost at the face of the nut, and go in as deep as it is possible to make them. This thread depth allows for more variation in the lengths of the studs or screws used.

Sizes 4 to 1/2 inch inclusive are packed 100 in a box; larger sizes are packed in bulk only.

Size Thread Inches	Bright or Nickel Plated per 100	Chrome Plated per 100	Width Across Flats Inches	Height Inches	Min. Depth Threads Inches
4-36	\$1.40	\$2.20	1/4	1/4	5/32
6-32	1.60	2.40	5/16	9/32	3/16
8-32	1.60	2.40	5/16	9/32	3/16
10-24	2.00	2.90	3/8	11/32	7/32
10-32	2.00	2.90	3/8	11/32	7/32
12-24	2.00	2.90	3/8	11/32	7/32
1 1/4-20, Small	2.50	3.50	7/16	3/8	1/4
1 1/4-20, Large	3.20	4.30	7/16	13/32	9/32
1 1/4-28	2.50	3.50	7/16	3/8	1/4
5/16-18	4.00	5.10	9/16	7/16	9/32
5/16-24	4.00	5.10	9/16	7/16	9/32
3/8-16	5.60	6.80	5/8	1 1/2	5/16
3/8-24	5.60	6.80	5/8	1 1/2	5/16
7/16-14 and 20	9.00	10.50	3/4	9/16	3/8
1 1/2-13 and 20	9.00	10.50	3/4	9/16	3/8
5/8-11 and 18	30.00	34.00	1 1/8	3/4	7/16
3/4-10	50.00	56.00	1 1/8	7/8	1 1/2
7/8-9	60.00	.....	1 1/4	1	5/8
1-8	70.00	.....	1 1/8	1 1/8	3/4

Williams' Drop Forged Thumb Screws



Lengths longer than listed can be furnished specially from available dies; intermediate length takes price of next longer length. U.S. standard screw thread furnished; Whitworth Standard at same price; other threading on order. U.S. standard thread on threaded screw unless other thread is specified. Screws with special points on order.

When ordering, indicate pattern by letter. When threading is ordered, commercial product is furnished; if additional accuracy is required, extra charge consistent with requirements is made.

Threaded thumb screws furnished unless otherwise ordered.

Lgth. Un- der Head In.	Per 100 Threaded									
	THREAD DIAMETER, INCHES									
	1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	
	40	24	20	18	16	14	13	12	11	10
	U.S. STANDARD THREADS PER INCH									
	WIDTH OF HEAD, INCHES									
	Type A									
	3/4	1 1/16	1 1/8	1 1/4	1 1/2	2	2 1/4	2 1/2	2 3/4	.....
	Type B									
	2 5/32	1	1 1/16	1 1/8	1 1/4	1 1/2	2 1/4	2 1/2	2 3/4	.....
	Type C or D									
	1 1/32	2 7/32	1	1 1/16	1 1/8	1 1/4	1 1/2	2 1/4	2 1/2	2 3/4
1/4	\$13.90	14.67	16.08	18.02	20.86	24.71	29.08	37.97	.....	.....
1/2	\$14.54	15.31	16.74	18.66	21.49	24.71	29.08	37.97	.....	.....
3/4	\$15.18	15.95	17.38	19.32	22.13	25.61	29.99	39.01	.....	.....
1	\$15.95	16.74	18.15	20.09	22.90	26.64	31.02	40.28	51.61	79.79
1 1/4	\$16.74	17.51	18.92	20.86	23.67	27.81	32.30	41.95	53.66	81.86
1 1/2	\$17.62	18.41	19.82	21.89	24.71	29.22	33.73	43.76	55.86	84.17
1 3/4	.....	\$19.32	20.72	23.03	25.87	30.62	35.40	45.69	58.17	86.88
2	.....	\$20.46	21.89	24.20	27.04	32.05	37.07	48.00	60.87	89.96
2 1/4	.....	.....	\$23.03	25.34	28.31	33.59	38.87	50.45	63.84	93.17
2 1/2	.....	.....	\$24.20	26.51	29.61	35.13	40.68	53.02	66.92	97.31
2 3/4	.....	.....	\$25.34	27.81	31.02	36.67	42.59	55.73	70.14	101.68
3	.....	.....	\$26.51	29.08	32.82	38.35	44.79	58.56	73.61	106.44
3 1/2	.....	.....	.....	\$31.66	35.27	41.95	50.07	64.48	81.20	116.73
4	.....	.....	.....	\$34.36	38.61	46.33	56.76	72.07	91.39	129.21
	Blank									
1/4	\$8.76	9.53	10.30	11.59	13.13	15.44	18.02	23.17	.....	.....
1/2	\$9.13	9.90	10.69	11.97	13.51	15.44	18.02	23.17	.....	.....
3/4	\$9.53	10.30	11.07	12.36	13.90	15.95	18.52	23.80	.....	.....
1	\$9.90	10.69	11.46	12.74	14.28	16.48	19.05	24.57	31.52	51.48
1 1/4	\$10.30	11.07	11.84	13.13	14.67	16.98	19.69	25.48	32.82	52.78
1 1/2	\$10.69	11.46	12.23	13.64	15.18	17.62	20.33	26.51	34.23	54.19
1 3/4	.....	\$11.84	12.61	14.17	15.71	18.28	21.10	27.68	35.77	55.86
2	.....	\$12.36	13.13	14.67	16.21	18.92	21.89	28.95	37.44	57.79
2 1/4	.....	.....	\$13.64	15.18	16.74	19.69	22.77	30.38	39.25	59.71
2 1/2	.....	.....	\$14.17	15.71	17.25	20.46	23.67	31.92	41.18	62.28
2 3/4	.....	.....	\$14.67	16.21	17.89	21.23	24.71	33.59	43.25	64.86
3	.....	.....	\$15.18	16.74	18.52	22.13	26.00	35.40	45.43	67.83
3 1/2	.....	.....	.....	\$17.75	19.82	23.94	29.08	39.01	50.07	74.01
4	.....	.....	.....	\$18.79	21.36	26.25	32.96	43.76	56.63	81.86

*Type C only; Type D not made.

Williams' Drop-Forged Thumb Nuts

Blank or Tapped



Type A



Type B

Drop-forged from steel; furnished either blank or tapped, tumbled smooth. Tapped nuts have base faced at right angle to hole. U.S. Std. threads in stock; other threads supplied to order. Special sizes and shapes furnished to order. When tapping is ordered, a commercial product is furnished. If additional accuracy is required an extra charge will be made.

Size Bolt In.	Blank Per 100	Tapped Per 100	U.S. Diam. Std. Top Threads In.	Size Bolt In.	Blank Per 100	Tapped Per 100	U.S. Diam. Std. Top Threads In.
1/8	\$4.51	\$11.59	40	7/16	\$10.30	\$25.74	14
3/16	5.15	12.87	24	1/2	12.87	32.19	13
1/4	5.79	14.17	20	9/16	15.44	38.61	12
5/16	6.69	16.74	18	5/8	18.66	43.76	11
3/8	8.36	20.59	16	3/4	27.04	59.20	10

Pressed Steel Thumb Screws



Per 100

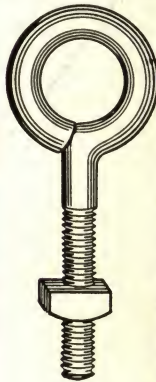
Length Inches	THREADS PER INCH				
	24	20	18	16	14
	DIAMETER OF SCREW				
	10	1/4	5/16	3/8	7/16
1/2	\$1.20	\$1.50	\$2.00	\$2.70	.....
3/4	1.45	1.80	2.35	3.00	.....
1	1.70	2.10	2.70	3.40	\$4.60
1 1/4	1.95	2.40	3.05	3.80	5.20
1 1/2	2.20	2.70	3.40	4.20	5.80
1 3/4	2.50	3.00	3.75	4.60	6.40
2	2.80	3.30	4.10	5.00	7.00
2 1/2	....	4.30	5.20	6.20	8.60
3	....	5.30	6.30	7.40	10.20

Special sizes manufactured to order in steel, brass or other metals with flat, round, dog, cone or other points. Prices quoted upon application.

No. 113 Washburn Eyebolts

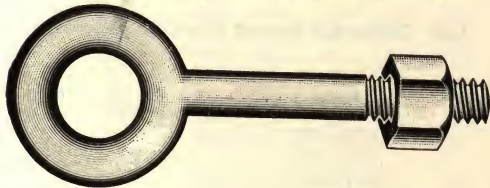
With Square Nuts and Turned Eyes

Cadmium plated; 1 dozen in box. Specify number and sizes as indicated in first column.



Size Length Inches	Length Thread Inches	Length Shank Inches	Inside Diam. of Eye Inches	Weight Pounds per Dozen
3/16x2	7/8	1 1/8	1/2	.60
3/16x2 1/2	1	1 1/2	1/2	.73
1/4 x2	3/4	1	9/16	.83
1/4 x2 1/2	1	1 1/2	9/16	1.1
1/4 x3	1 1/4	2	9/16	1.4
1/4 x4	1 1/2	3	9/16	1.7
1/4 x5	2	4	9/16	2.1
1/4 x6	2	5	9/16	2.7
1/4 x8	2	7	9/16	3.1
5/16x3 1/4	1 1/4	2	3/4	2.0
5/16x4	1 1/2	2 1/2	3/4	2.4
5/16x5	1 3/4	3 1/2	3/4	2.5
5/16x6	2	4 1/2	3/4	2.9
5/16x8	2	6 3/4	3/4	3.2
3/8 x4	1 1/2	2 1/4	1	3.2
3/8 x5	1 3/4	3 1/4	1	3.4
3/8 x6	2	4 1/4	1	4.3
3/8 x8	2	6 1/4	1	5.4
7/16x6	2	4	1 1/8	5.4
7/16x8	2	6	1 1/8	6.6

Chicago Regular Nut Eyebolts



Made of hot galvanized drop forged steel.

Diameter and Length Shank Inches	Each	Diameter and Length Shank Inches	Each	Diameter and Length Shank Inches	Each	Diameter and Length Shank Inches	Each	Diameter and Length Shank Inches	Each
1/4x2	\$24	5/16x6	\$45	1/2x5	\$60	3/8x15	\$1.60	7/8x5	\$1.68
1/4x3	.28	3/8x2 1/2	.30	1/2x6	.66	5/8x16	1.66	7/8x8	2.13
1/4x4	.33	3/8x3	.34	1/2x8	.76	5/8x18	1.78	7/8x12	2.45
1/4x5	.36	3/8x4	.40	1/2x10	.82			7/8x18	2.92
1/4x6	.40	3/8x4 1/2	.45	1/2x12	.88	3/4x 4 1/2	1.20		
		3/8x5	.46			3/4x 6	1.50	1x 6	2.36
5/16x2 1/4	.26	3/8x6	.52	5/8x4	.76	3/4x 8	1.62	1x 9	2.90
5/16x3	.30	3/8x8	.64	5/8x6	.94	3/4x10	1.74	1x10	3.00
5/16x4	.35			5/8x8	1.04	3/4x12	1.88	1x12	3.26
5/16x4 1/4	.40	1/2x3 1/4	.46	5/8x10	1.20	3/4x15	2.16	1x18	3.83
5/16x5	.40	1/2x4	.52	5/8x12	1.32	3/4x18	2.50	....	....

Armstrong Drop Forged Eyebolts

Blank or Threaded



Without Shoulder



With Shoulder

Drop forged from the best mild steel treated to give increased tensile strength. When ordering, specify whether blank or threaded eyebolts are wanted. Threaded eyebolts will be shipped unless blank is specified.

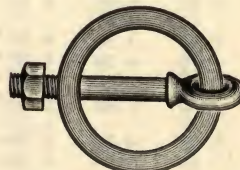
*Prices on application.

No.	Without Shoulder	With Shoulder	Std. Lgth. Each	Blank Extra for Lgth. Up To Max. Each	Extra per Inch Over Max. Each	Std. Lgth. Each	Threaded Extra per Inch for Thread Only Each
21	..	21	\$2.22	....	....	\$3.34	..
22	..	22	.24	....	....	.36	....
23	3	23	.25	....	....	.40	....
24	4	24	.28	....	....	.43	....
25	5	25	.34	....	....	.49	....
26	6	26	.40	....	....	.60	....
27	7	27	.52	....	....	.78	....
28	8	28	.72	....	....	1.02	....
29	9	29	.96	....	....	1.32	....
30	10	30	1.32	....	....	1.78	....
31	11	31	1.93	....	....	2.50	....
32	12	32	2.77	....	....	3.49	....
34	14	34	4.81	....	....	6.01	....
35	15	35	7.21	....	....	9.01	....
36	16	36	10.24	....	....	12.75	....
..	17	..	16.85	....	....	21.19	....

No.	With- out Should- er	With Should- er	Size SHANK, Std. Lgth. Under Eye & Thrd.	In. Max. Lgth. in Stock Blank	DIAM. EYE, INCHES		CAP. BLANKS; TONS OF 2000 LB. Safe Approx. Working Load	Break- ing Strain	Wt. Lb.
					Inside	Outside			
21	..	21	1/4	3	3/4	1 1/16	.2	1.5	1/16
22	..	22	5/16	4	7/8	1 1/8	.4	2.	1/10
23	3	23	3/8	4 1/2	1	1 1/4	.7	3.	1/8
24	4	24	7/16	4 1/2	1 1/8	1 3/8	1.	4.	1/4
25	5	25	1/2	4 1/2	1 1/4	1 1/2	1.3	5.	3/8
26	6	26	9/16	4 1/2	1 3/8	1 5/8	1.5	6.	1/2
27	7	27	5/8	4 1/2	1 1/2	1 3/4	2.	8.	5/8
28	8	28	3/4	5	1 1/2	1 3/4	3.	12.	1
29	9	29	7/8	5	1 1/4	1 3/4	3.5	16.	1 1/8
30	10	30	1	5	1 1/8	1 3/4	4.	20.	2
31	11	31	1 1/8	5	2	4	5.	23.	2 3/4
32	12	32	1 1/4	6	2 1/8	4 1/8	7.5	33.	3 1/2
34	14	34	1 1/2	6	2 1/2	4 1/2	9.	42.	6
35	15	35	1 3/4	6	2 3/8	4 3/4	11.	53.	12 1/2
36	16	36	2	6	2 3/4	4 3/4	13.	68.	18
..	17	..	2 1/2	6	3	4 3/4	16.	85.	31

No. G-261 Laughlin Nut Ring Bolts

Drop-Forged Steel
Galvanized



Regular Lengths			Extra Lengths		
Diam. and Length Shank In.	Each	Wt. Lb. per 100	Diam. and Length Shank In.	Each	Wt. Lb. per 100
1/4 x2	\$5.55	17	1/4 x 4	\$6.64	19 3/4
5/16x2 1/4	.64	28 1/2	5/16x 4 1/4	.72	34
3/8 x2 1/2	.72	43 1/4	3/8 x 4 1/2	.90	52 1/2
1/2 x3 1/4	1.00	97 1/2	1/2 x 6	1.27	120
5/8 x4	1.54	180	5/8 x 6	1.81	200
3/4 x4 1/2	2.45	290	3/4 x 6	2.90	315
7/8 x5	3.63	440	7/8 x 8	4.25	491
1 x6	5.25	665	1 x 9	5.98	750
1 1/4 x8	9.60	...	1 1/4 x12	10.80	...

Stock in galvanized finish only.

Carbon Steel Spring Lock Washers

American (A.S.A.) Standards
Trapezoidal Sections



Made of high grade tempered steel.

No. Screw or Bolt Size, In.	Pattern Type	Section Size, In.	Wt., Lb. per 1000	Kantlink per 1000	Non-Link Positive per 1000
2	Light	.030x.015	.06	\$2.95	.....
2	Medium	.035x.020	.11	2.95	.....
2	Heavy	.040x.025	.14	2.95	.....
2	Extra Heavy	.053x.027	.23	2.95	.....
3	Light	.035x.020	.11	3.60	.....
3	Medium	.040x.025	.17	2.95	.....
3	Heavy	.047x.031	.26	2.95	\$5.40
3	Extra Heavy	.062x.034	.27	2.95	5.40
4	Light	.035x.020	.11	2.70	.....
4	Medium	.040x.025	.17	2.70	.....
4	Heavy	.047x.031	.26	2.70	4.85
4	Extra Heavy	.062x.034	.40	2.70	4.85
5	Light	.040x.025	.20	3.35	.....
5	Medium	.047x.031	.28	2.70	4.85
5	Heavy	.055x.040	.43	2.70	4.85
5	Extra Heavy	.079x.045	.77	2.70	5.40
6	Light	.040x.025	.20	2.55	.....
6	Medium	.047x.031	.31	2.55	4.30
6	Heavy	.055x.040	.45	2.55	4.60
6	Extra Heavy	.079x.045	.82	2.85	4.85
8	Light	.047x.031	.39	2.40	4.45
8	Medium	.055x.040	.54	2.40	4.45
8	Heavy	.062x.047	.70	2.40	4.60
8	Extra Heavy	.096x.057	1.47	2.70	4.85
10	Light	.055x.040	.60	2.00	4.05
10	Medium	.062x.047	.79	2.00	4.20
10	Heavy	.070x.056	1.07	2.15	4.30
10	Extra Heavy	.112x.068	2.33	2.70	5.15
12	Light	.062x.047	.88	2.40	4.75
12	Medium	.070x.056	1.19	2.40	4.85
12	Heavy	.077x.063	1.46	2.40	5.15
12	Extra Heavy	.130x.080	3.59	2.95	5.40
3/16	Light	.055x.040	.60	2.00	4.05
3/16	Medium	.062x.047	.79	2.00	4.20
3/16	Heavy	.070x.056	1.07	2.15	4.30
3/16	Extra Heavy	.112x.068	2.33	2.70	5.15
1/4	Light	.107x.047	1.96	2.80	5.00
1/4	Medium	.109x.062	2.59	2.95	5.40
1/4	Heavy	.110x.077	3.03	3.75	6.20
1/4	Extra Heavy	.132x.084	4.39	4.40	8.10
5/16	Light	.117x.056	3.01	3.90	6.50
5/16	Medium	.125x.078	4.45	4.55	6.75
5/16	Heavy	.130x.097	5.53	4.95	7.95
5/16	Extra Heavy	.143x.108	7.16	5.90	9.05
3/8	Light	.136x.070	5.07	4.95	7.70
3/8	Medium	.141x.094	7.00	5.90	8.35
3/8	Heavy	.145x.115	8.78	7.10	10.00
3/8	Extra Heavy	.170x.123	11.42	9.00	13.10
7/16	Light	.154x.085	7.94	7.90	10.65
7/16	Medium	.156x.109	10.21	8.35	11.20
7/16	Heavy	.160x.133	12.75	11.00	15.25
7/16	Extra Heavy	.186x.143	16.48	13.40	18.35
1/2	Light	.170x.099	11.40	10.85	14.70
1/2	Medium	.171x.125	14.36	11.45	15.40
1/2	Heavy	.176x.151	17.85	13.55	20.65
1/2	Extra Heavy	.204x.162	22.93	14.80	22.70

Carbon Steel Spring Lock Washers

American (A.S.A.) Standards
Trapezoidal Sections

No. Screw or Bolt Size, Inch	Pattern Type	Section Size, In.	Wt., Lb. per 1000	Kantlink per 1000	Non-Link Positive per 1000
9/16	Light	.186x.113	15.77	\$14.50	\$19.45
9/16	Medium	.188x.141	19.77	15.95	21.45
9/16	Heavy	.193x.170	24.46	18.10	25.65
9/16	Extra Heavy	.223x.182	31.23	22.70	31.20
5/8	Light	.201x.126	20.80	17.05	24.05
5/8	Medium	.203x.156	25.87	19.20	27.40
5/8	Heavy	.210x.189	32.48	22.80	33.20
5/8	Extra Heavy	.242x.202	41.27	29.10	43.60
11/16	Light	.216x.138	28.34	22.40	31.60
11/16	Medium	.219x.172	35.42	25.90	36.70
11/16	Heavy	.227x.207	44.08	33.40	47.10
11/16	Extra Heavy	.260x.221	55.29	40.50	57.10
3/4	Light	.233x.153	38.45	28.55	40.35
3/4	Medium	.234x.188	42.93	32.45	45.75
3/4	Heavy	.244x.226	55.75	41.45	58.45
3/4	Extra Heavy	.279x.241	69.72	54.05	76.30
7/8	Light	.264x.179	55.12	40.25	67.90
7/8	Medium	.266x.219	67.39	46.80	72.90
7/8	Heavy	.281x.266	86.71	61.70	87.50
7/8	Extra Heavy	.322x.285	109.0	93.10	131.20
1	Light	.289x.202	76.28	61.30	100.05
1	Medium	.297x.250	96.62	77.00	108.55
1	Heavy	.319x.306	128.0	140.85	198.45
1	Extra Heavy	.366x.330	163.0	163.60	230.60
1 1/8	Light	.314x.224	102.0	87.45	123.25
1 1/8	Medium	.328x.281	133.0	125.55	176.85
1 1/8	Heavy	.356x.345	179.0	158.00	222.60
1 1/8	Extra Heavy	.411x.375	232.0	206.80	291.45
1 1/4	Light	.336x.244	130.0	133.85	188.60
1 1/4	Medium	.359x.312	178.0	170.35	240.05
1 1/4	Heavy	.393x.384	250.0	236.05	332.65
1 1/4	Extra Heavy	.452x.417	312.0	289.05	407.30
1 3/8	Light	.356x.264	162.0	155.45	218.95
1 3/8	Medium	.391x.344	234.0	226.70	319.40
1 3/8	Heavy	.427x.422	316.0	287.30	404.85
1 3/8	Extra Heavy	.491x.458	406.0	382.50	539.05
1 1/2	Light	.375x.282	196.0	190.45	268.40
1 1/2	Medium	.422x.375	297.0	278.70	392.70
1 1/2	Heavy	.458x.458	399.0	371.55	523.55
1 1/2	Extra Heavy	.526x.496	510.0	575.10	810.40

High Collar for Socket Head Cap-Screws

No. Screw or Bolt Size, In.	Section Size, Inches	Wt., Lb. per 1000	Per 1000
4	.022x.022	.06	\$3.35
6	.031x.031	.16	2.25
8	.047x.047	.44	2.15
10	.047x.047	.50	1.90
12	.047x.078	.86	2.85
3/16	.047x.047	.50	1.90
1/4	.047x.078	.94	3.10
5/16	.047x.078	1.17	3.60
3/8	.078x.125	3.94	4.95
7/16	.078x.125	4.48	7.00
1/2	.109x.172	10.19	16.00
5/8	.109x.172	11.25	18.65
3/4	.109x.172	12.28	21.05
7/8	.109x.187	15.67	27.75
1	.109x.187	17.95	50.30
1 1/8	.125x.203	25.39	70.55
1 1/4	.156x.312	55.06	83.45
1 1/2	.219x.312	89.26	94.00
1 3/4	.219x.312	104.00	103.55

Type 11 Shakeproof Lock Washers

External Teeth—For Amer. Standard Screws, Bolts and Nuts



Made of high carbon steel, hardened and tempered; also available in 410 stainless steel, beryllium copper, phosphor bronze and K-monel in listed sizes on special order. U.S. Standard nuts, binding, brass and washer head screws.

No.	Per 1000	Screw Size In.	O.D. In.	Hole Diam., In.	Thick. In.	Approx. Wt., Lb. per 1000
1104-00	No. 4	.255-.245	.123-.116	.016	.147
1105-00	No. 5	.280-.270	.136-.129	.016	.145
1106-00	No. 6	.317-.306	.150-.142	.020	.233
1108-00	No. 8	.381-.370	.176-.168	.020	.334
1110-00	No. 10	.406-.395	.204-.195	.022	.380
1112-00	No. 12	.474-.462	.231-.221	.025	.595
1114-00	1/4	.506-.494	.267-.256	.025	.623
1118-00	5/16	.601-.588	.332-.320	.030	1.03
1120-00	3/8	.694-.680	.398-.384	.035	1.55
1122-00	7/16	.760-.740	.464-.448	.035	1.50
1124-00	1/2	.900-.880	.530-.513	.040	3.01
1126-00	9/16	.985-.965	.594-.576	.040	3.12
1128-00	5/8	1.070-1.045	.663-.641	.045	4.32
1132-00	3/4	1.260-1.240	.790-.768	.050	7.25
1134-00	7/8	1.410-1.380	.927-.897	.055	8.72
1136-00	1	1.620-1.590	1.060-1.025	.062	13.0

Type 12 Shakeproof Lock Washers

Internal Teeth—For American Standard Screws, Bolts and Nuts

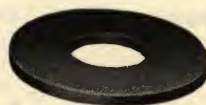


High carbon steel, hardened and tempered; also available in 410 stainless steel, beryllium copper, phosphor bronze and K-monel in listed size on special order. Also suitable for use under S.A.E. hex nuts, round and hex head screws. Each tooth is twisted, one edge up and one edge down, to give line bite, top edge biting into nut, other biting into working surface.

No.	Per 1000	Screw Size In.	O.D. In.	Hole Diam., In.	Thick. In.	Approx. Wt., Lb. per 1000
1202-00	No. 2	.185-.175	.095-.089	.012	.046
1203-00	No. 3	.225-.215	.109-.102	.016	.086
1204-00	No. 4	.265-.255	.123-.116	.016	.131
1205-00	No. 5	.255-.245	.136-.129	.018	.125
1206-00	No. 6	.285-.275	.150-.142	.018	.168
1208-00	No. 8	.336-.325	.176-.168	.020	.255
1210-00	No. 10	.381-.370	.204-.195	.022	.348
1212-00	No. 12	.406-.394	.231-.221	.022	.411
1214-00	1/4	.478-.466	.267-.256	.025	.633
1218-00	5/16	.607-.594	.332-.320	.030	1.16
1220-00	3/8	.692-.678	.398-.384	.035	1.67
1222-00	7/16	.789-.774	.463-.448	.035	2.24
1224-00	1/2	.883-.867	.529-.512	.040	3.16
1226-00	9/16	.974-.957	.594-.576	.040	4.66
1228-00	5/8	1.071-1.053	.659-.640	.045	5.02
1230-00	11/16	1.166-1.147	.725-.704	.045	6.18
1232-00	3/4	1.245-1.220	.795-.769	.050	7.88
1233-00	13/16	1.386-1.365	.856-.832	.050	9.84
1234-00	7/8	1.386-1.364	.918-.894	.055	8.80
1236-00	1	1.637-1.613	1.043-1.019	.062	16.3
1238-00	1 1/8	1.825-1.799	1.168-1.144	.062	20.2
1241-00	1 1/16	1.950-1.921	1.356-1.331	.062	19.4

Extra Large Machine Bolts

Larger and longer bolts than those listed can be furnished to specifications.



Wrought Steel Washers

Plain Steel or Galvanized Finish

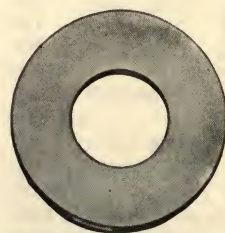
Regular packing, 200-pound kegs. Also 100-lb. kegs and 5-lb. boxes.

For Bolt Size In.	O.D. In.	Size Hole In.	THICKNESS In.	Approx. No. in 100 Lb.
3/16	9/16	1/4	18	36200
1/4	3/4	5/16	16	14900
5/16	7/8	3/8	16	11100
3/8	1 1/8	7/16	14	6700
7/16	1 1/4	1/2	14	4100
1/2	1 3/8	9/16	12	2600
9/16	1 1/2	5/8	12	2200
5/8	1 3/4	11/16	10	1300
3/4	2	13/16	9	910
7/8	2 1/4	15/16	8	652
1	2 1/2	1 1/16	8	532
1 1/8	2 3/4	1 1/8	8	454
1 1/4	3	1 1/4	8	384
1 3/8	3 1/4	1 3/8	7	300
1 1/2	3 1/2	1 1/2	7	260
1 5/8	3 3/4	1 5/8	7	227
1 3/4	4	1 3/4	7	200
1 7/8	4 1/4	2	7	176
2	4 1/2	2 1/8	7	159
2 1/4	4 3/4	2 1/4	5	121
2 1/2	5	2 1/2	4	104
2 3/4	5 1/4	2 3/4	3	91
3	5 1/2	3	2	77

Brass Washers

Standard Sizes for Machine Screws, Wood Screws, Cap Screws and Bolts

List of April, 1947



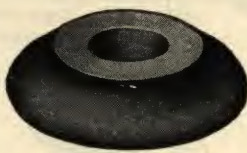
Special washers of copper, brass or other metals can be furnished; prices on application.

Brass washers are regularly packed in 1-pound labeled boxes; large quantities are shipped in bulk. Nos. 2, 3, 4, 5, and 6 S Washers are supplied in 1/4-pound or 1/2-pound boxes at slightly higher prices.

When ordering, it is necessary only to specify the screw or bolt size, together with the letters S or L to indicate small or large pattern.

Screw Size No.	Bolt Size Inches	Outside Diameter Inches	Inside Diameter Inches	Thick-ness Inches	Approx. No. per Pound	Per Pound
2	...	7/32	.092	.018	6300	\$7.00
3	...	1/4	.105	.020	4370	4.00
4	...	9/32	.119	.025	2760	3.00
5	...	5/16	.133	.025	2940	3.00
6S	...	3/8	.147	.028	2130	2.50
6L	1/8	3/8	.147	.032	1170	2.00
8S	...	7/16	.172	.032	1250	2.00
8L	5/32	7/16	.172	.036	760	1.80
10S	...	1/2	.200	.036	830	1.80
10L	3/16	1/2	.200	.040	520	1.70
12S	...	9/16	.227	.040	550	1.70
12L	7/32	9/16	.227	.040	410	1.70
14S	...	5/8	.260	.040	435	1.70
14L	1/4	5/8	.260	.051	210	1.60
16S	...	3/4	.282	.040	355	1.60
16L	...	3/4	.282	.064	136	1.60
18S	...	7/8	.310	.051	230	1.60
18L	9/32	7/8	.310	.064	100	1.60
20S	...	1	.337	.064	150	1.60
20L	5/16	1	.337	.064	102	1.60
24S	...	1 1/8	.391	.064	108	1.60
24L	3/8	1 1/8	.391	.081	63.2	1.50
...	7/16	1 1/8	1/2	.081	52.5	1.50
...	1/2	1 1/8	9/16	.091	37.9	1.50
...	1 1/2	1 3/8	5/8	.091	29.4	1.50
...	5/8	1 1/2	11/16	.102	23.6	1.50
...	3/4	1 3/4	11/16	.102	16	1.50
...	7/8	1 7/8	13/16	.114	13	1.50
...	1	2	13/16	.125	10.2	1.50
...	1 1/8	2 1/4	15/16	.128	7.8	1.50
...	1 1/2	2 1/2	1 1/16	.144	5.7	1.50

Cast Iron Washers



Size Bolt...in.	1/2	5/8	3/4	7/8	1	1 1/8	1 1/4	1 3/8	1 1/2
O. D.....in.	2 3/8	2 3/4	3	3 1/2	4 1/8	4 1/2	5	5 1/2	6
Size Hole...in.	5/8	3/4	7/8	1	1 1/8	1 1/4	1 3/8	1 1/2	1 5/8
Thickness...in.	1 1/2	5/8	3/4	7/8	1	1 1/8	1 1/4	1 1/2	1 5/8
Approx.Wt.lb.	.45	.60	.85	1.40	2.00	3.00	4.00	4.25	6.00

Price per 100 pounds upon application.

No. 10 Moline Refined Malleable Iron Washers
Nut Lock Pattern

For all types of engineering work—bridge, dock, pier, railroad. Made from air furnace malleable iron. Lighter and stronger than cast washers. Clean, smooth castings—no defects. Positive nut locking feature.

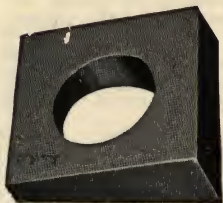
Packed 200 pounds per keg.



Hole Size Bolt In.	Diam. In.	Thick. In.	Approx. Wt., Lb. per 100 Pes.
1/2	2 3/8	3/8	21
5/8	2 5/8	7/16	25
3/4	2 13/16	7/16	34
7/8	3 1/4	7/16	47
1	3 3/4	1 1/2	60
1 1/8	4 3/8	9/16	100
1 1/4	4 3/4	5/8	140
1 1/2	5 3/4	1 1/16	200

No. 11, Ribbed-Railroad and levelled pattern also available; further information and prices on application.

Standard Bevel Washers



For use when bolting to the flanges of I-beams and channels. Made of high grade malleable iron, having a cored hole which is a close fit on the bolt. All sizes have standard slope of 16 2/3% or 2 inches in 12 inches, which is same taper as flanges of standard I-beams and channels. Washers are marked for size of bolt.

Diam. Bolt.....in.	3/8	1/2	5/8	3/4	7/8	1
Per Pound.....	1 1/4	1 1/4	1 1/2	1 1/2	2	2
Size.....in.	1 1/4	1 1/4	1 1/2	1 1/2	2	2
Large Thickness...in.	1 1/2	1 1/2	1 3/2	1 3/2	2 1/2	2 1/2
Smaller Thickness...in.	5/2	5/2	5/2	5/2	7/2	7/2
Size Hole.....in.	1/16	9/16	11/16	13/16	15/16	1 3/2
Weight per 100...lb.	10.2	9.5	15.4	16.5	34.2	32.5

Countersunk Brass Finishing Washers
Nickel Plated

No.	Per 1000	No.	Per 1000
4	\$2.25	12	\$5.95
5	2.40	14	7.10
6	2.45	16	10.60
8	3.00	5/16 In.	11.50
10	4.10	3/8 In.	15.30

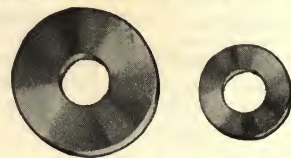
Also available in plain brass. Prices upon application.

Au-ve-co Grommets and Washers
Solid Brass

No.	Size No.	Hole In.
7345	0	7/32
7346	1	9/16
7347	2	1 1/2
7348	3	1 3/2
7349	4	1 1/2
7350	5	1 3/2



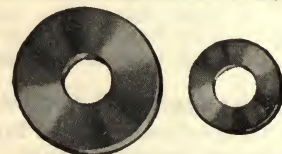
Monel Metal Washers



Sizes other than listed can be furnished promptly to order.

Screw or Bolt Size In.	Per 100	O.D. In.	I.D. In.	Thick. In.	Screw or Bolt Size In.	Per 100	O.D. In.	I.D. In.	Thick. In.
No. 6	\$.65	3/8	.147	.031	1/2	\$6.25	1 1/4	9/16	.078
No. 8	.65	3/8	.172	.031	5/8	12.50	1 1/2	1 1/16	.109
No. 10	.75	7/16	.200	.037	3/4	17.00	1 3/4	1 3/16	.109
1/4	1.25	1 1/16	.260	.050	7/8	32.00	2 1/4	1 5/16	.125
5/16	2.25	7/8	.337	.062	1	37.00	2 1/2	1 1/2	.125
3/8	3.00	1	.391	.062					

18-8 Stainless Steel Washers



Sizes other than listed furnished to order.

Screw or Bolt Size Inches	Per 100	O.D. In.	I.D. In.	Thickness Inches	Wt., Lb. per 1000
No. 6	\$.65	3/8	.147	.031	.80
*No. 8	.70	3/8	.172	.031	.80
*No. 10	1.00	7/16	.200	.037	1.20
No. 12	1.50	1/2	.227	.040	1.80
* 1/4	1.80	1 1/16	.260	.050	4.40
* 5/16	3.20	7/8	.337	.062	8.80
* 3/8	4.50	1	.391	.062	11.50
7/16	7.50	1 1/8	1/2	.062	14.10
* 1/2	8.50	1 1/4	9/16	.078	21.20
* 5/8	12.00	1 1/2	1 1/16	.078	30.00
* 3/4	22.00	1 3/4	1 3/16	.109	67.60
* 7/8	40.00	2	1 5/8	.109	99.00
* 1	55.00	2 1/2	1 1/2	.125	155.80

*Also available in 18-8 SMO (Type 316) stainless steel.

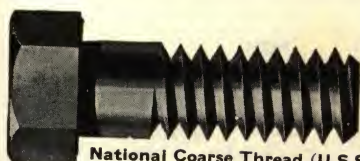


Hexagon Head Brass Cap-Screws

National Coarse Thread—Class 2

Diam. Screw...in.	1/4	5/16	3/8	7/16	1/2	5/8	3/4
Diam. Head...in.	7/16	1/2	9/16	5/8	3/4	7/8	1
Height Head...in.	3/16	15/64	9/32	21/64	3/8	15/32	9/16
Threads per Inch..	20	18	16	14	13	11	10
No. per Box.....	100	50	25				
3/8.....	\$4.60						
1/2.....	\$4.70	\$6.70	\$8.50				
5/8.....	4.90	6.90	8.80				
3/4.....	\$5.10	\$7.10	\$9.10	\$12.10	\$17.90		
7/8.....	5.30	7.30	9.40		18.40		
1.....	\$5.50	\$7.60	\$9.80	13.10	\$19.00	\$26.10	\$39.00
1 1/4.....	\$6.00	\$8.20	\$10.60	14.20	\$20.20	28.50	43.80
1 1/2.....	\$6.50	\$8.90	\$11.50	\$15.40	\$21.50	31.00	48.90
1 3/4.....	7.10	9.70	12.50	16.70	22.90	33.60	54.00
2.....	\$7.80	\$10.80	\$13.60	\$18.10	\$24.40	36.40	59.20
2 1/4.....	8.70	11.80	14.80	19.60	26.00	39.40	64.40
2 1/2.....	\$9.80	\$12.90	\$16.10	\$21.20	\$27.70	42.70	69.60
2 3/4.....	11.00	14.20	17.50	23.00	29.60	46.30	74.70
3.....	\$12.00	\$15.40	\$19.00	\$25.00	\$31.70	50.30	79.80
3 1/2.....			22.00		35.30	57.30	90.00
4.....			25.00		38.90	64.40	100.00

*Also stocked in National Fine Thread.



National Coarse Thread (U.S.S.)

Steel Hexagon Head Cap-Screws

Packed in bulk or packages.

When ordering, specify diameter first and finish desired. Available bright or heat treated.



National Fine Thread (S.A.E.)

Diameter of Screw.....inches	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8	1
	7/16	1/2	9/16	5/8	3/4	13/16	7/8	1	1 1/8	1 1/2
Diameter of Head.....inches	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1	1 1/8	1 1/2
Height of Head.....inches	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1	1 1/8	1 1/2
Threads (National Coarse (U.S.S.))	20	18	16	14	13	12	11	10	9	8
Threads (National Fine (S.A.E.))	28	24	24	20	20	18	18	16	14	14
Thread Length, N.C. and N.F....inches	3/4	7/8	1	1 1/8	1 1/4	1 3/8	1 1/2	1 3/4	2	2 1/4
Length Under Head to Extreme Point, INCHES	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	1 3/4	2	2 1/4
1	\$1.30	\$1.50	\$1.90							
1 1/4	1.35	1.60	2.00							
1 1/2	1.40	1.70	2.10	\$3.00	\$4.70					
1 3/4	1.50	1.80	2.20	3.10	4.90					
2	1.60	1.90	2.30	3.20	5.10	\$7.90	\$8.60	\$13.30		
2 1/4	1.80	2.10	2.50	3.50	5.50	8.40	9.20	13.30		
2 1/2	2.00	2.30	2.70	3.80	5.90	8.90	9.80	14.10	\$24.60	\$36.00
2 3/4	2.20	2.50	3.00	4.10	6.30	9.40	10.40	14.90	24.60	36.00
3	2.40	2.70	3.30	4.50	6.70	10.00	11.00	15.70	24.60	36.00
3 1/4	2.60	2.90	3.60	4.90	7.20	10.60	11.60	16.50	25.80	38.00
3 1/2	2.80	3.20	3.90	5.30	7.70	11.20	12.20	17.30	27.20	40.00
3 3/4	3.00	3.50	4.30	5.70	8.20	11.80	12.80	18.10	28.60	42.00
4	3.30	3.80	4.70	6.20	8.70	12.40	13.50	18.90	30.00	*44.00
4 1/4	4.00	4.60	5.30	6.70	9.20	13.00	14.20	19.80	31.50	*46.00
4 1/2	4.70	5.40	5.90	7.20	9.80	13.60	15.00	20.80	33.00	*49.00
5	5.40	6.20	6.80	7.90	10.40	14.30	15.80	21.80	35.00	*52.00
5 1/2	6.10	7.00	7.70	8.60	11.00	15.00	16.60	22.80	37.00	*55.00
6					13.40		18.60	25.50	41.00	*61.00
					15.80		22.60	30.90	45.00	*68.00
					18.20		26.60	36.30	54.00	80.00
					20.60		30.60	41.70	63.00	92.00
Add for Each 1/4 Inch for Lengths Longer than Listed.....	.70	.80	.90	1.00	1.20	1.50	2.00	2.70	4.50	6.00
Quantity per Package.....	100	50	25	10	5	2	1	1	1	1

The sizes listed above are considered standard. *Packed 20 in box. †Packed 16 in box.

Steel Cap-Screws

Head machined concentric with the body and well finished.

National Coarse (U.S.S.) threads only are standard.

Flat head has included angle of 80-82° on the head.

Sizes, as listed, are considered standard.

Packed in bulk or packages.

When ordering, give diameter first.



Flat Head



Fillister Head

Diam. Screw...in.	1/4	5/16	3/8	1/2	5/8	3/4	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1
	1/2	5/8	3/4	1 1/8	1 1/4	1 1/2	1 1/4	1 1/2	1 3/4	1 1/2	1 3/4	1 1/2	1 3/4	1 1/2	1 3/4
Diam. Head...in.	1/2	5/8	3/4	1 1/8	1 1/4	1 1/2	1 1/4	1 1/2	1 3/4	1 1/2	1 3/4	1 1/2	1 3/4	1 1/2	1 3/4
Side Ht. Head...in.	1/2	5/8	3/4	1 1/8	1 1/4	1 1/2	1 1/4	1 1/2	1 3/4	1 1/2	1 3/4	1 1/2	1 3/4	1 1/2	1 3/4
Thds. per In....	20	18	16	13	11	10	11	10	9	8	7	6	5	4	3
Length, INCHES	1/2	5/8	3/4	1	1 1/4	1 1/2	1 1/4	1 1/2	1 3/4	1 1/2	1 3/4	1 1/2	1 3/4	1 1/2	1 3/4
1	\$2.70						\$2.70	\$3.00	\$3.75						
1 1/4	2.70						2.70	3.00	3.75	\$4.90	\$6.10				
1 1/2	2.70	\$3.00	\$3.75	\$6.50			3.05	3.35	4.15	5.30	6.50				
1 3/4	3.05	3.35	4.15	6.50	\$10.85		3.05	3.35	4.15	5.30	6.50				
2	3.35	3.55	4.45	6.85	10.85		3.35	3.55	4.45	5.65	6.85	\$10.50			
2 1/4	3.65	3.80	4.80	7.35	10.85	\$16.35	3.65	3.80	4.80	6.05	7.35	10.85	\$15.95		
2 1/2	3.80	4.10	5.20	7.80	11.50	16.35	3.80	4.10	5.20	6.50	7.80	11.50	16.35	\$25.70	
2 3/4	4.00	4.35	5.60	8.30	12.15	16.75	4.00	4.35	5.60	6.90	8.30	12.15	16.75	26.20	\$33.60
3	4.15	4.65	6.00	9.00	13.00	17.80	4.15	4.65	6.00	7.50	9.00	13.00	17.80	27.60	35.75
3 1/4	4.95	6.40	9.75	13.90	18.80		4.35	4.95	6.40	8.05	9.75	13.90	18.80	29.10	38.00
3 1/2	5.25	6.80	10.50	14.65	19.80		4.55	5.25	6.80	8.60	10.50	14.65	19.80	30.60	40.20
3 3/4		7.20	11.20	15.40	20.90		4.70	5.55	7.20	9.15	11.20	15.40	20.90	32.15	42.40
4				16.20	23.40	30.90		5.85	7.60	9.75	12.05	16.10	22.10	34.10	45.00
4 1/4									8.00	10.35	12.80	16.85	23.15	36.95	47.80
4 1/2										10.95	13.60	17.50	24.40	37.90	50.40
5											14.40	18.35	25.60	39.80	53.20
												19.75	27.00	43.15	58.60
†Add for each 1/4 In.....	.90	1.10	1.60	2.50	4.00	5.00	.90	1.10	1.60	2.00	2.50	4.00	5.00	8.00	11.00
Quantity per Pkg. 100	50	25	10	5	2	1	100	50	25	10	5	2	1	1	1

*Length of flat screws measured overall; length of fillister head measured under head to extreme point.

†Add for each 1/4 inch the above extras for lengths not exceeding 6 inches for fillister head screws and 4 inches for flat head screws.

Other threads, larger diameters and longer lengths take special prices, based upon quantity.

†16 per package.

Heavy face prices indicate stock sizes.



Square Head

Steel Square Head and Headless Set-Screws

Cup point square head and headless screws, National Coarse (U.S.S.) threads, hardened, are standard. Points of other shapes are specially made to order; price based on quantity. When ordering, state diameter first. In bulk or packages.



Cup Point



Headless

Per 100

Diameter	Screw...in.	No. 4	No. 6	No. 8	No. 10	No. 10	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1
Ht. Head..in.	Threads, In..	36	32	32	24	32	20	18	16	14	13	11	10	9	8
1/8		*\$2.80	*\$2.80	*\$2.80	*\$2.80	*\$2.80									
3/16		*2.80	*2.80	*2.80	*2.80	*2.80	*\$2.80								
1/4		*2.80	*2.80	*2.80	*2.80	*2.80	*2.80	*\$3.15							
5/16			*2.80	*2.80	*2.80	*2.80	*2.80	*\$3.15	*\$3.65						
3/8			*2.80	*2.80	*2.80	*2.80	*2.80	3.15	*3.65						
1/2				*2.80	*2.80	*2.80	*2.80	3.15	3.65	\$5.35	*\$6.55				
5/8					*2.80	*2.80	*2.80	3.15	3.65	\$5.35	*\$6.55				
3/4								2.90	3.25	\$3.75	\$5.45	6.65	\$11.55		
7/8								3.10	3.40	\$4.00	\$5.55	6.75			
1								3.25	3.55	\$4.30	\$5.65	6.85	\$11.95	\$21.10	
1 1/4								3.60	3.90	\$4.80	\$6.15	7.60	\$12.15	\$21.50	
1 1/2								3.95	4.20	\$5.25	\$6.65	8.35	\$12.35	\$21.90	\$36.20
1 3/4								\$4.25	\$4.70	\$5.90	\$7.25	\$9.10	\$13.30	\$22.30	\$47.50
2								\$4.55	\$5.20	\$6.55	\$7.90	\$9.80	\$14.20	\$22.70	\$37.20
2 1/4									\$5.65	\$7.15		\$10.60	\$15.30	\$24.40	
2 1/2									\$6.15	\$7.75	\$9.45	\$11.40	\$16.50	\$26.10	\$42.30
3									\$7.10	\$9.00		\$12.35	\$18.85	\$29.35	\$47.40
3 1/2												\$15.35	\$21.90	\$33.20	\$52.80
4												\$17.85	\$24.85	\$37.10	\$58.25
4 1/2												\$27.95	\$41.85	\$63.85	\$82.15
5												\$34.35	\$49.85	\$69.60	\$90.85
6													\$65.85	\$95.20	\$126.05
\$Add for Each															
1/4 Inch....							.70	.90	1.30	1.60	2.00	3.20	4.00	6.40	8.80
Qty. per Pkg.			200				100	50				25			20

*Standard in headless set-screw only.

†Square head package quantity, 100.

‡Standard in square head set-screws only.

§Add for each 1/4 inch the above extras for lengths not exceeding 6 inches;

square head screws only.

||Length of headless screws measured overall; length of square head screws measured under head to extreme point.

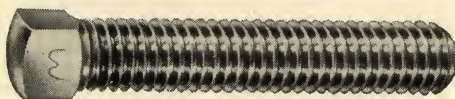
The sizes as listed above are considered Standard.

Mac-it Square Head Set-Screws

Made from Mac-it special alloy steel. Die cut threads accurate in pitch diameter; lead to American Screw Standards. Heat treated.

Standard in cup and half dog points and American Stand-

This use requires different heat treatment at no extra cost.



Diameter Screw...in.	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8	1	1 1/8	1 1/4	1 1/2
Threads per Inch.....	20	18	16	14	13	12	11	10	9	8	7	7	6
1/2	\$4.30	\$5.35	\$6.45										
5/8	4.60	5.65	6.85	\$7.40	\$8.90								
3/4	4.90	5.95	7.25	7.90	9.40	\$11.40	\$12.50						
7/8	5.20	6.25	7.65	8.40	9.90	12.00	13.20						
1	5.50	6.55	8.05	8.90	10.40	12.60	13.90	\$17.20	\$21.50	\$40.00			
1 1/4	6.10	7.15	8.85	9.90	11.40	13.80	15.30	18.90	24.00	44.30			
1 1/2	6.70	7.75	9.65	10.90	12.40	15.00	16.70	20.60	26.50	48.60	\$63.00		
1 3/4	7.30	8.35	10.45	11.90	13.40	16.20	18.10	22.30	29.00	52.90	69.00		
2	7.90	8.95	11.25	12.90	14.40	17.40	19.50	24.00	31.50	57.20	75.00	\$94.50	
2 1/4	8.50	9.55	12.05	13.90	15.40	18.60	20.90	25.70	34.00	61.50	81.00	102.00	
2 1/2	9.10	10.15	12.85	14.90	16.40	19.80	22.30	27.40	36.50	65.80	87.00	109.50	\$177.00
2 3/4	9.70	10.75	13.65	15.90	17.40	21.00	23.70	29.10	39.00	70.10	93.00	117.00	187.50
3	10.30	11.35	14.45	16.90	18.40	22.20	25.10	30.80	41.50	74.40	99.00	124.50	198.00
3 1/4			15.25	17.90	19.40	23.40	26.50	32.50	44.00	78.70	105.00	132.00	208.50
3 1/2			16.05	18.90	20.40	24.60	27.90	34.20	46.50	83.00	111.00	139.50	219.00
3 3/4			16.85	19.90	21.40	25.80	29.30	35.90	49.00	87.30	117.00	147.00	229.50
4			17.65	20.90	22.40	27.00	30.70	37.60	51.50	91.60	123.00	154.50	240.00
4 1/2			21.25	24.90	26.40	29.40	33.50	41.00	56.50	100.20	135.00	169.50	261.00
5			24.85	28.90	30.40	34.20	36.30	44.40	61.50	108.80	147.00	184.50	282.00
5 1/2					34.40	39.00	41.90	51.20	66.50	117.40	159.00	199.50	303.00
6					38.40	43.80	47.50	58.00	71.50	126.00	171.00	214.50	324.00
6 1/2								64.80	81.50	136.00	183.00	229.50	345.00
7								71.60	91.50	146.00	195.00	244.50	366.00
7 1/2								78.40	101.50	156.00	207.00	259.50	387.00
8								85.20	111.50	166.00	219.00	274.50	408.00
8 1/2									121.50	176.00	231.00	289.50	429.00
9									131.50	186.00	243.00	304.50	450.00
Quantity in Pkg.	100			50						25			

Mac-it Socket Head Cap-Screws

Heat treated for maximum tensile strength and toughness, to resist rounding out of key sockets, and to prevent splitting of hex sockets at the corners. Concentricity of head, body and thread held to close limits by Mac-it process.

This screw permits compact design in a walled corner, the deciding factor controlling the proximity of screw to corner is wrench or diameter of socket when a socket key is used.

Heavy face prices for N.F. thread indicate standard sizes, all other sizes are made to order.



All sizes listed are standard in National Coarse thrd. All other diameters, lengths, threads, etc. are special and prices will be furnished upon application. Special length of thread, large diameter of head, special height of head, socket diameter other than as listed, flat top head, concentricity of head, thread, and body closer than standard, pitch diameter tolerance closer than Class 3 are special.

Specify diameter, thread and length under head. One hexagon key furnished with each standard box lot.

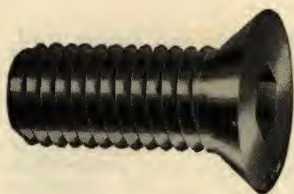
		Per 100													
		National Coarse Threads													
Diameter Screw.....in.	Threads per Inch.....	No. 4	No. 5	No. 6	No. 8	No. 10	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1
1/4	40	\$4.65	\$4.70	\$4.75	\$4.85		24	20	18	16	14	13	11	10	9
3/8	40	4.70	4.75	4.80	4.90	\$5.05	\$5.25	\$6.25							
1/2	40	4.90	4.95	5.00	5.10	5.30	5.50	6.50	\$7.40	\$8.90	\$10.20				
5/8	40	5.10	5.15	5.20	5.35	5.55	5.75	6.75	7.70	9.20	10.60				
3/4	40	5.35	5.40	5.45	5.60	5.80	6.00	7.00	8.00	9.50	11.00				
7/8	40			5.75	5.85	6.05	6.25	7.25	8.50	10.00	11.75				
1	40			6.15	6.35	6.55	6.75	7.75	9.00	10.50	12.25	\$18.00			
1 1/4	40				7.10	7.30	7.50	8.50	10.00	11.50	13.50	19.75	\$24.00		
1 1/2	40					7.85	8.05	8.25	9.25	11.00	12.50	14.75	21.50	26.00	
1 3/4	40						8.80	9.00	10.00	12.00	13.50	16.00	23.25	28.00	
2	40						9.55	9.75	10.75	13.00	14.50	17.25	25.00	30.00	\$47.00
2 1/4	40							10.50	11.50	14.00	15.50	18.50	27.00	33.00	50.00
2 1/2	40							11.25	12.50	15.00	17.00	20.00	29.00	36.00	53.00
2 3/4	40							12.00	13.50	16.00	18.50	21.50	31.00	39.00	56.00
3	40							13.50	14.50	17.50	20.00	23.00	33.00	42.00	60.00
3 1/4	40								16.00	19.00	21.50	24.50	35.00	45.00	64.00
3 1/2	40								17.50	20.50	23.00	26.00	37.00	48.00	68.00
4	40								24.00	27.00	29.00	32.00	41.00	53.00	74.00
4 1/2	40								28.00	32.00	35.00	38.00	45.00	58.00	81.00
5	40								32.00	36.00	40.00	44.00	50.00	62.00	85.00
5 1/2	40									38.00	41.00	45.00	49.00	57.00	73.00
6	40									44.00	47.00	51.00	55.00	62.00	79.00
6 1/2	40									50.00	53.00	57.00	61.00	69.00	86.00
7	40									56.00	59.00	63.00	67.00	75.00	92.00
8	40									62.00	65.00	69.00	73.00	81.00	98.00
Quantity per Pkg.....		100										50			

KNURLED HEADS
will be furnished at
the prices shown,
when specified.

		National Fine Threads													
		No. 4	No. 5	No. 6	No. 8	No. 10	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1
Diam. Screw.....in.	Threads per Inch.....	48	44	40	36	32	28	24	24	20	20	18	16	14	14
1/4	48	\$4.65	\$4.70	\$4.75	\$4.85										
3/8	44	4.70	4.75	4.80	4.90	\$5.05	\$5.25	\$6.25							
1/2	40	4.90	4.95	5.00	5.10	5.30	5.50	6.50	\$7.40	\$8.90	\$10.20				
5/8	40	5.10	5.15	5.20	5.35	5.55	5.75	6.75	7.70	9.20	10.60				
3/4	40	5.35	5.40	5.45	5.60	5.80	6.00	7.00	8.00	9.50	11.00				
7/8	40			5.75	5.85	6.05	6.25	7.25	8.50	10.00	11.75				
1	40			6.15	6.35	6.55	6.75	7.75	9.00	10.50	12.25	\$18.00			
1 1/4	40				7.10	7.30	7.50	8.50	10.00	11.50	13.50	19.75	\$24.00		
1 1/2	40					7.85	8.05	8.25	9.25	11.00	12.50	14.75	21.50	26.00	
1 3/4	40						8.80	9.00	10.00	12.00	13.50	16.00	23.25	28.00	
2	40						9.55	9.75	10.75	13.00	14.50	17.25	25.00	30.00	\$47.00
2 1/4	40							10.50	11.50	14.00	15.50	18.50	27.00	33.00	50.00
2 1/2	40							11.25	12.50	15.00	17.00	20.00	29.00	36.00	53.00
2 3/4	40							12.00	13.50	16.00	18.50	21.50	31.00	39.00	56.00
3	40							13.50	14.50	17.50	20.00	23.00	33.00	42.00	60.00
3 1/4	40								16.00	19.00	21.50	24.50	35.00	45.00	64.00
3 1/2	40								17.50	20.50	23.00	26.00	37.00	48.00	68.00
4	40								24.00	27.00	29.00	32.00	41.00	53.00	74.00
4 1/2	40								28.00	32.00	35.00	38.00	45.00	58.00	81.00
5	40								32.00	36.00	40.00	44.00	50.00	62.00	85.00
5 1/2	40									38.00	41.00	45.00	49.00	57.00	73.00
6	40									44.00	47.00	51.00	55.00	62.00	79.00
6 1/2	40									50.00	53.00	57.00	61.00	69.00	86.00
7	40									56.00	59.00	63.00	67.00	75.00	92.00
8	40									62.00	65.00	69.00	73.00	81.00	98.00
Quantity per Pkg.....		100										50			

KNURLED HEADS
will be furnished at
the prices shown,
when specified.

		Extras and Dimensions													
		No. 4	No. 5	No. 6	No. 8	No. 10	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1
Diam. Screw.....in.	Socket Width.....in.	3/4	3/2	3/2	1 1/2	5/2	3/16	7/32	3/16	5/16	3/8	1/2	3/4	7/8	1
Max. Head Diameter.....in.	Max. Head Height.....in.	.183	.205	.226	.270	.316	3/8	1/2	5/8	3/4	1	1 1/8	1 1/4	1 1/2	1 3/4
For Each 1/4" beyond	Lgth. Listed (Spec.)...	.112	.125	.138	.164	.190	1/4	5/16	3/8	1/2	3/4	1	1 1/8	1 1/4	1 3/4
Ex. Keys: Short Arm.100	Long Arm.....per 100	3.20	3.30	3.30	3.40	3.60	5.70	6.90	11.50	13.50	17.00	22.00	28.50	38.00	50.00
		4.20	4.30	4.30	4.40	4.60	6.70	7.90	13.50	13.50	22.00	38.50	55.00	75.00	100.00



Mac-it Flat Head Socket Cap-Screws

Flat Point

Flat head cap-screws, in sizes listed, are standard in National Coarse thread. Sizes indicated by asterisk (*) are also standard in National Fine thread. All diameters, lengths and threads not shown are special; prices upon request. Note, when ordering, that length is expressed as overall length. One hexagon key is furnished with each standard box lot.

Per 100

Diameter.....inches	No. 4	No. 6	No. 8	No. 10	1/4	5/16	3/8	7/16	1/2	5/8	3/4
Max. Body Diameter.....inches	.112	.138	.164	.190	.250	.3125	.375	.4375	.500	.625	.750
Max. Head Diameter.....inches	.225	.279	.332	.385	1/2	5/8	3/4	13/16	7/8	1 1/8	1 3/8
Size of Hex Hole.....inches	1/16	5/64	3/32	1/8	5/32	3/16	7/32	1/4	5/16	3/8	1/2
Threads per Inch: Amer. (N.C.) Coarse...	40	32	32	24	20	18	16	14	13	11	10
Amer. (N.F.) Fine.....	48	40	36	32	28	24	24	20	20	18	16
1/4.....	\$5.15	\$5.35									
3/8.....	5.35	5.55	\$5.65	*\$5.75	*\$6.00	*\$6.75					
1/2.....	5.55	5.75	5.85	*\$5.95	*\$6.25	*\$7.00	*\$7.50				
5/8.....	5.75	5.95	6.05	*\$6.15	*\$6.50	*\$7.25	*\$8.00				
3/4.....	5.95	6.15	6.25	*\$6.35	*\$6.75	*\$7.50	*\$8.50	\$10.50	*\$12.00		
1.....			6.55	*\$7.10	*\$7.50	*\$8.50	*\$9.75	12.00	*\$13.25		
1 1/4.....				*\$7.85	*\$8.25	*\$9.25	*\$10.75	13.00	*\$14.50	\$21.00	\$26.00
1 1/2.....					*\$8.50	*\$9.00	*\$10.00	*\$12.00	14.25	*\$15.75	23.00
1 3/4.....						9.75	10.75	13.00	15.25	*\$17.00	25.00
2.....							10.50	11.50	14.00	16.25	*\$18.25
2 1/4.....								12.25	15.00	17.50	19.75
2 1/2.....									13.00	16.00	18.75
2 3/4.....										17.00	20.00
3.....											18.00
Quantity in Package.....				100				50		25	

Add for Each 1/4 In. not Listed (Special).....	1.50	1.70	1.80	1.90	2.00	2.50	3.00	4.00	5.00	6.00	7.00
Extra Keys: Short.....each	3.15	3.20	3.30	3.40	4.60	5.70	6.90	8.00	11.50	17.00	17.00
Long.....each	4.20	4.30	4.40	4.40	5.60	6.70	7.90	9.00	13.50	22.00	22.00

Mac-it Socket Head Cap-Screws
Supplementary Non-Standard Sizes

Special sizes, 1 1/8, 1 1/4 and 1 1/2-inch screw diameters; not carried in stock; subject to special prices.

For other sizes, refer to standard list.

Permits more compact designs, resulting in a saving of weight, especially when screw is located in a walled corner, because of smaller size of screw head.

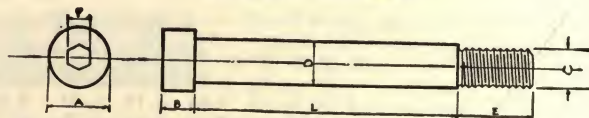
Since hexagonal key used in tightening the screw can be removed and reinserted repeatedly, the head of screw must clear only the wall, permitting a narrower flange.

Per 100

Diameter Screw.....in.	1 1/8	1 1/4	1 1/2
Max. Diameter Head.....in.	1 1/2	1 3/4	2
Max. Height Head.....in.	1 1/8	1 1/4	1 1/2
Size Hex Socket.....in.	3/4	3/4	1
Threads per Inch:			
Amer. Nat. Coarse....(N.C.)	7	7	6
Amer. Nat. Fine.....(N.F.)	12	12	12
2.....	\$133.00		
2 1/4.....	138.00		
2 1/2.....	143.00	\$166.00	
2 3/4.....	148.00	172.00	
3.....	153.00	178.00	\$240.00
3 1/4.....	158.00	184.00	247.00
3 1/2.....	163.00	190.00	254.00
4.....	173.00	202.00	268.00
4 1/2.....	183.00	214.00	278.00
5.....	193.00	228.00	292.00
5 1/2.....	203.00	238.00	306.00
6.....	213.00	250.00	320.00
8.....	253.00	298.00	376.00
10.....	293.00	346.00	432.00
12.....	343.00	394.00	488.00

Extra for Lengths Longer than Listed

Add for Each 1/4 Inch.....	\$15.00	\$17.50	\$22.50
Extra Keys, per 100			
Short Arm Series.....	\$75.00	\$75.00	\$120.00
Long Arm Series.....	105.00	105.00	180.00

Mac-it Stripper Bolts or Socket Head
Shoulder Screws

Made from Mac-it special alloy steel. Heat treated. Class 3 fit. Specify diameter and length of body. All sizes packed 25 per box. (One hexagon key furnished with each standard box lot).

Per 100

Diameter (D).....in.	1/4	5/16	3/8	1/2	5/8	3/4
N.C. Threads: Size (C).....in.	#10	1/4	5/16	3/8	1/2	5/8
No. per in.	24	20	18	16	13	11
Length of Threads (E).....in.	3/8	7/16	1/2	5/8	3/4	7/8
Diameter of Head (A).....in.	3/8	7/16	9/16	3/4	7/8	1
Height of Head (B).....in.	3/16	7/32	1/4	5/16	3/8	1/2
Width across Flats (F).....in.	1/8	5/32	3/16	1/4	5/16	3/8
1.....	\$16.00	\$17.00	\$19.00	\$29.00		
1 1/4.....	16.75	17.75	19.75	29.75	\$42.75	
1 1/2.....	17.50	18.50	20.50	30.50	43.50	\$68.50
1 3/4.....		19.25	21.25	31.25	44.25	69.25
2.....		20.00	22.00	32.00	45.00	70.00
2 1/4.....			23.50	33.50	48.00	73.00
2 1/2.....			25.00	35.00	51.00	76.00
2 3/4.....			26.50	36.50	54.00	79.00
3.....			28.00	38.00	57.00	82.00
3 1/4.....			30.50	40.50	61.00	87.00
3 1/2.....			33.00	43.00	65.00	92.00
3 3/4.....			35.50	45.50	69.00	97.00
4.....			38.00	48.00	73.00	102.00
4 1/4.....				52.00	78.00	108.00
4 1/2.....				56.00	83.00	114.00
4 3/4.....				60.00	88.00	120.00
5.....				64.00	93.00	126.00
5 1/2.....					108.00	144.00
6.....					123.00	162.00

Stripper bolts or shoulder screws are standard only in N.C. Thread.

Mac-it Hollow Set-Screws

Produced from Mac-it special alloy steel. Die-cut threads are accurate in pitch diameter and lead to American Screw Standards. Heat treated to resist upsetting of point, rounding out of hex sockets and splitting of the sockets at the corners. All other diameters, lengths, threads, points, etc., than those listed, are special service; charges and extra prices will be quoted upon application.

One hex key is furnished with each standard box.



Cup Point



Oval Point



Cone Point



Flat Point



Half Dog Point

Per 100

Cup Point—National Coarse or National Fine Thread

All sizes standard in cup point N.C. thread.

*Sizes starred, standard in N.F. thread; all other sizes listed made to order.

Oval, Cone, Flat and Half Dog Points—N.F. Thread

†Sizes daggered, standard in N.F. thread; all other sizes listed made to order.

Diam. Screw . . . in.	No. 4	No. 5	No. 6	No. 8	No. 10	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1
Thrs. per In. N.C.	40	40	32	32	24	20	18	16	14	13	11	10	9	8
N.F.	48	44	40	36	32	28	24	24	20	20	18	16	14	14
1/8	*\$3.95	*\$4.00	*\$4.05	*\$4.10	*\$4.15	*\$4.20	*\$4.30							
3/16	*\$4.00	*\$4.05	*\$4.10	*\$4.15	*\$4.20	*\$4.25	*\$4.35	*\$4.45	*\$4.55					
1/4	*\$4.05	*\$4.10	*\$4.15	*\$4.20	*\$4.25	*\$4.30	*\$4.40	*\$4.50	*\$4.60					
5/16	*\$4.10	*\$4.15	*\$4.20	*\$4.25	*\$4.30	*\$4.40	*\$4.50	*\$4.60	*\$4.70					
3/8	*\$4.20	*\$4.25	*\$4.30	*\$4.35	*\$4.40	*\$4.50	*\$4.60	*\$4.70	*\$4.80	*\$4.90				
1/2	4.40	4.45	4.50	4.55	4.60	4.70	4.80	4.90	*\$5.90	\$6.90				
5/8	4.70	4.75	4.80	4.85	4.90	5.00	5.10	*\$5.20	*\$6.40	*\$7.40	\$9.90			
3/4	5.00	5.05	5.10	5.15	5.20	5.35	5.50	5.60	6.80	*\$7.80	*\$10.30	\$12.80		
7/8		5.35	5.40	5.45	5.50	5.70	6.00	6.20	7.40	*\$8.40	10.90	13.40		
1			6.00	6.05	*\$6.10	*\$6.40	*\$7.00	*\$7.40	8.70	9.90	11.50	14.00	\$17.00	
1 1/4						*\$6.65	*\$7.10	*\$7.60	*\$8.20	9.50	10.50	12.50	15.00	18.00
1 1/2							7.80	8.40	*\$9.20	11.00	12.00	14.50	18.00	22.00
1 3/4							8.50	9.20	10.50	12.50	13.50	16.50	20.00	25.00
2							9.70	10.50	12.50	14.00	15.00	18.50	23.00	29.00
2 1/2									14.50	16.50	17.50	21.50	27.00	34.00
3										20.00	24.50	31.00	39.00	48.00

Oval, Cone, Flat and Half Dog Points—N.C. Thread

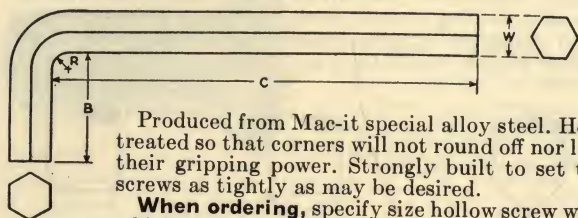
All sizes standard in N.C. thread. Other sizes listed for cup point N.C. thread made to order.

Diam. Screw . . . in.	No. 4	No. 5	No. 6	No. 8	No. 10	1/4	5/16	3/8	1/2	No. 4	No. 5	No. 6	No. 8	No. 10	1/4	5/16	3/8	1/2
Thrs. per In. N.C.	40	40	32	32	24	20	18	16	13	40	40	32	32	24	20	18	16	13
1/8	\$3.95									\$3.95		\$4.05						
3/16	4.00									4.00		4.10						
1/4		\$4.15	4.20	4.25	\$4.35	\$4.45					4.10	4.15	4.20	\$4.25	\$4.35			
5/16		4.20			4.40	4.50						4.20	4.25	4.30	4.40	\$4.50		
3/8		4.30			4.40	4.50	4.60	\$4.70				4.30	4.35	4.40	4.50	4.60	\$4.70	
1/2			4.85	4.90	5.00	5.10	5.20	\$7.40				4.85	4.90	5.00	5.10	5.20	\$7.40	
5/8					5.35	5.50	5.60	7.80							5.35	5.50	5.60	7.80
3/4					5.70	6.00	6.20	8.40							5.70	6.00	6.20	8.40
1					6.40	7.00	7.40	9.70							6.40	7.00	7.40	9.70
1 1/4																		

Extras and Dimensions

Diam. Screw . . . in.	No. 4	No. 5	No. 6	No. 8	No. 10	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1
Decimal Equiv. in.	.112	.125	.138	.164	.190									
Extra Keys:														
Short Arm per 100	\$3.10	\$3.15	\$3.15	\$3.20	\$3.30	\$3.40	\$4.60	\$5.70	\$6.90	\$8.00	\$11.50	\$17.00	\$28.50	\$40.00
Long Arm per 100				4.20	4.30	4.40	5.60	6.70	7.90	9.00	13.50	22.00	38.50	55.00
Add for Each 1/4 In. beyond Last Lgth. Listed (Special)	\$1.35	\$1.40	\$1.45	\$1.50	\$1.55	\$1.60	\$1.90	\$2.25	\$2.80	\$3.50	\$4.75	\$6.00	\$7.00	\$8.00
Socket Width . . . in.	.050	1/16	1/16	5/64	3/32	1/8	5/32	3/16	7/32	1/4	5/16	3/8	1/2	9/16
Cup Point Diam. in.	.053	1/16	.069	5/64	3/32	1/8	11/64	13/64	15/64	9/32	23/64	17/64	33/64	19/32
Oval Pt. Radius in.	5/64	3/32	7/64	1/8	9/64	3/16	15/64	9/32	21/64	5/8	15/32	9/16	21/32	3/4
Flat Point Diam. in.	.053	1/16	.069	5/64	3/32	1/8	11/64	13/64	15/64	9/32	23/64	17/64	33/64	19/32
H. Dog Pt. Diam. in.	.070	.083	.092	.109	.127	5/32	13/64	19/64	11/32	15/32	9/16	21/32	3/4	19/32
H. Dog Pt. Lgth. in.	.025	.030	.035	.040	.045	1/16	5/64	3/32	7/64	1/8	9/32	3/16	7/32	1/4

Mac-it Keys

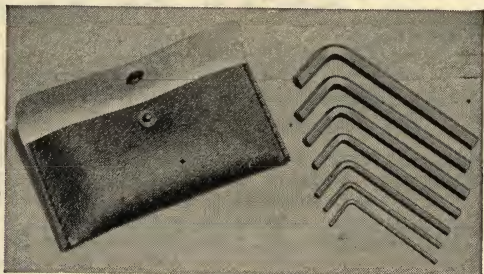


Produced from Mac-it special alloy steel. Heat treated so that corners will not round off nor lose their gripping power. Strongly built to set the screws as tightly as may be desired.

When ordering, specify size hollow screw with which key is used. Unless otherwise specified, short series keys will be furnished.

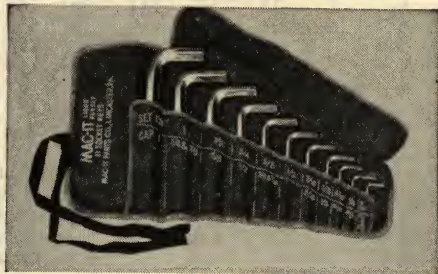
SOCKET SCREW DIAMETER No. OR INCHES					Short Series		Long Series		Max.	
Hollow Set-Screws	Socket Head Cap-Screws	Flat Head Cap-Screws	Strip-per Bolts	Plug Pipes	Per 100	Max. Lgth. Long Arm In. C	Per 100	Max. Lgth. Long Arm In. C	Hex. Wdth. In. W	Max. Lgth. Short Arm In. B
4	...	...	...	...	\$3.10	1 3/4	...	...	.050	9/16
5, 6	...	4	...	...	3.15	1 3/4	...	...	1/16	9/16
8	4	6	...	...	3.20	1 7/8	\$4.20	3 3/16	5/64	39/64
10	5, 6	8	...	...	3.30	2	4.30	3 3/8	3/32	21/32
1/4	8	10	1/4	...	3.40	2 1/4	4.40	3 3/4	1/8	3/4
5/16	10	1/4	5/16	1/16	4.60	2 1/2	5.60	4 1/8	5/32	7/8
3/8	1/4	5/16	3/8	1/8	5.70	2 3/4	6.70	4 1/2	3/16	15/16
7/16	5/16	3/8	7/16	1/4	6.90	3	7.90	4 7/8	7/32	1 1/8
1/2, 9/16	3/8, 7/16	1/2	5/8	3/8	8.00	3 1/4	9.00	5 1/4	1/4	1 1/8
5/8	1/2	5/8, 3/4	3/4	1/2	11.50	3 3/4	13.50	6	5/16	1 1/4
3/4	3/4	...	...	...	17.00	4 1/4	22.00	6 3/4	3/8	1 3/8
7/8	7/8	...	...	...	28.50	5 1/4	38.50	8 1/4	1/2	1 5/8
1, 1 1/8	3/4, 7/8	...	...	3/4	40.00	5 3/4	55.00	9	9/16	1 3/4
1 1/4, 1 3/8	1	...	...	1	55.00	6 1/4	75.00	9 3/4	5/8	1 7/8
1 1/2	1 1/8, 1 1/4	...	...	1 1/4	75.00	7 1/4	105.00	11 1/4	3/4	2 1/8
1 3/4, 2	1 1/2	...	...	...	120.00	9 1/4	180.00	14 1/4	1	2 5/8

No. 107 Mac-it Regular Key Kits



Seven keys for No. 8 to 1/2-inch hollow set-screws. Packed in a handy leatherette case . . . per set \$.75

No. 111 Mac-it Large Key Kits



Eleven short series keys for No. 10 up to and including 1 1/4-inch hollow set-screws. Packed in a neat canvas container with pockets . . . per set \$2.35

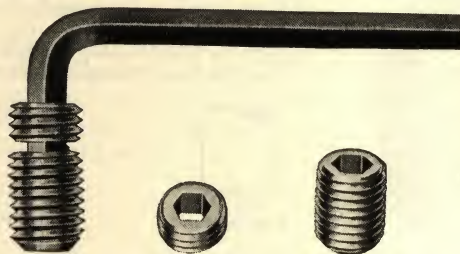
Square Head or Plug Socket Screw Key

Can be carried in operator's pocket.

Size No. or Inches	Each	Size No. or Inches	Each
No. 8	\$.09	1 1/2	\$.24
No. 10	.10	5/8	.34
1/4	.10	3/4	.50
5/16	.13	7/8	.85
3/8	.17	1	1.20
7/16	.21	...	...



Mac-it Hollow Lock Screws



The Mac-it hollow lock screw offers a positive hollow set screw locking arrangement. Made from Mac-it special alloy steel, the hexagon socket goes all the way through the screw. This screw is placed first on the key, and then the key is inserted in the hexagon socket of the regular hollow screw. Both are driven together until the latter is set tight. The key is then partially withdrawn until it engages with only the lock screw, when the latter is independently driven into firm contact with the upper surface of the engaging member, firmly securing it in its position.

In releasing, the lock screw is first started; the key then slips down into the hexagon socket of the regular hollow screw where both may be withdrawn either totally or partially. The Mac-it hollow lock screw will not damage the threads of the tapped hole in any way.

Made in National Coarse and National Fine Thread series.

Diam. Inches	Length Inches	Per 100	Diam. Inches	Length Inches	Per 100
No. 8	5/64	\$4.10	1/2	1/4	\$6.90
No. 10	3/32	4.20	5/8	5/16	9.90
1/4	7/8	4.30	3/4	3/8	12.80
5/16	5/32	4.45	7/8	7/16	17.00
3/8	3/16	4.55	1	1/2	23.00
7/16	1/32	5.90	...	...	...

Standard Screw Gages For Wood and Machine Screws

DIAMETER— Amer. Screw Gage No.		Dec. Equiv. In.		DIAMETER— Amer. Screw Gage No.		Dec. Equiv. In.	
0	.060			14	.242		
1	.073						
2	.086			15	.255		
3	.099						
4	.112			16	.268		
5	.125						
6	.138			17	.281		
7	.151						
8	.164			18	.294		
9	.177						
10	.190			20	.320		
11	.203						
12	.216			22	.346		
13	.229						
				24	.372		

Illustrations are Actual Size

Mac-It Set-Screws

We carry a complete stock of Mac-It Set-Screws in both square and hollow head.

The screw of unusual strength.

Machine Screws

Flat, Round, Oval and Fillister Heads

American Standard—Free Fit—Class 2

Steel Machine Screws—Per Gross



Flat Head



Round Head



Oval Head



Fillister Head

Diam. No...	2	3	4	5	6	8	10	12	1/4"	5/16"	3/8"	1/2"
Type Threds..	Coarse	Coarse	Coarse	Coarse	Coarse	Coarse	Coarse	Coarse	Coarse	Coarse	Coarse	Coarse
Thrs. per in.	56	48	40	40	32	32	24	24	20	18	16	13
1/8	\$.41 RP	\$.42 RP	\$.43 R	\$.45 RP	\$.47 R	...	...	...	...	...	...	...
3/16	.42 FRP	.43 FRP	.44 FRP	.46 FRP	.46 FRP	\$.60 RP	\$.67 R	\$.67 R	...	...	...	...
1/4	.43 FRP	.44 FRP	.45 FROP	.47 FRP	.49 FRP	.62 FROP	.69 FRP	.69 FRP	\$.83 R	...	...	...
5/16	.44 FRP	.45 FRP	.46 FROP	.48 FRP	.50 FRP	.64 FRP	.71 FRP	.71 FRP	...	...	...	...
3/8	.45 FRP	.46 FRP	.47 FRP	.49 FROP	.51 FROP	.66 FRP	.73 FRP	.73 FRP	\$1.10 R	...	...	...
7/16	.46 R	.47 R	.48 FRP	...	.52 FRP	.68 FRP	.75 R	.75 R	1.13 FRP	\$1.70 R	...	...
1/2	.47 FRP	.48 FRP	.49 FRP	.51 FROP	.54 FROP	.70 FROP	.77 FRP	.77 FRP	1.16 FRP	...	...	...
5/8	.49 FR	.51 FR	.52 FR	.54 FRP	.57 FRP	.74 FROP	.82 FRP	.82 FRP	1.20 FRP	1.80 FRP	\$2.75 FR	...
3/4	.51 R	.53 R	.55 FRP	.57 FRP	.60 FROP	.77 FROP	.87 FRP	.87 FRP	1.02 FRP	1.95 FRP	2.95 FR	...
7/8	...	...	.57 FR	.60 RP	.65 FROP	.81 FRP	.92 FRP	.92 FRP	1.08 FRP	2.05 FRP	3.10 FR	...
1	...	...	.61 FR	.64 FRP	.70 FROP	.88 FRP	.98 FRP	.98 FRP	1.14 FRP	2.20 FR	3.30 FR	...
1 1/8	...	...	...	.73 R	.80 FR	.96 FR	1.06 FR	1.06 FR	1.20 FRP	2.35 FR	3.50 FR	\$7.20 F
1 1/4	...	...	.80 R	.82 R	.90 FRP	1.04 FROP	1.15 FRP	1.15 FRP	1.55 FRP	2.65 FRP	3.90 FR	7.90 F
1 1/2	...	...	.90 R	.92 R	1.00 FRP	1.16 FROP	1.30 FRP	1.30 FRP	1.40 FRP	3.00 FRP	4.30 FR	8.60 F
1 3/4	...	...	...	...	1.10 FRP	1.28 FROP	1.45 FRP	1.45 FRP	1.55 FR	3.35 FRP	4.70 FR	9.40 F
2	...	...	...	1.12 R	1.20 FRP	1.40 FROP	1.60 FRP	1.60 FRP	1.85 FR	3.70 FRP	5.10 FR	10.20 F
2 1/4	...	...	...	...	...	1.55 R	1.80 R	1.80 R	2.55 FR	...	...	...
2 1/2	...	...	...	...	...	1.70 FR	2.00 FR	2.00 FR	2.80 FRP	4.40 FR	6.20 FR	12.10 F
2 3/4	...	...	...	...	...	1.85 R	2.20 R	2.20 R	3.10 FR	...	...	...
3	...	...	...	...	...	2.00 FR	2.40 FR	2.40 FR	3.40 FR	5.20 FR	7.50 FR	...

Brass Machine Screws—Per Gross

Packed 1 gross in a box.

Letters indicate the style of head for a particular size of screw, thus:

F—flat head

R—round head

O—oval head

P—fillister head.

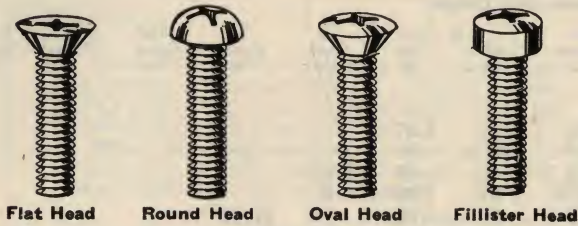
Short length flat and oval head screws, as indicated by boldface letters have undercut heads with the countersunk portion approximately two-thirds of the standard height, with slot depths proportionately less, but with standard head diameters.

The sizes listed are considered standard in accordance with Regulation No. 147, 5-28-42; all other sizes are non-standard, prices on request.

Diam. No...	2	3	4	5	6	8	10	12	1/4"	5/16"	3/8"	1/2"
Type Threds..	Coarse	Coarse	Coarse	Coarse	Coarse	Coarse	Coarse	Coarse	Coarse	Coarse	Coarse	Coarse
Thrs. per in.	56	48	40	40	32	32	24	24	20	18	16	13
1/8	\$.48 RP	...	\$.57 R	\$.63 R	\$.70 R	...	...	...	...	...	...	...
3/16	.50 FRP	\$.54 FRP	.60 FRP	.67 FR	.75 R	\$1.10 R	...	...	...	...	...	...
1/4	.52 FRP	.57 FRP	.63 FROP	.71 FROP	.80 FROP	1.18 FRP	\$1.48 R	\$1.48 R	...	...	...	...
5/16	.54 FRP	.60 FRP	.67 FRO	.75 FR	.85 FR	1.26 FR	1.56 R	1.56 R	...	...	...	...
3/8	.57 FR	.63 FR	.71 FRO	.80 FRP	.90 FROP	1.34 FR	1.65 FRP	1.65 FRP	\$2.20 FR	\$3.10 FR	\$5.30 R	...
7/16	.60 R	.66 R	.75 FR	...	.96 R	1.42 R	...	...	...	...	...	...
1/2	.63 FR	.69 FR	.79 FROP	.90 FRP	1.02 FROP	1.50 FRO	1.85 FRP	1.85 FRP	2.50 FR	3.50 FRP	5.90 R	\$9.40 R
5/8	.69 FR	.75 FR	.87 FR	1.00 R	1.14 FR	1.65 FRP	2.10 FR	2.10 FRP	2.80 FR	3.90 FRP	6.50 R	...
3/4	.75 R	.82 R	.95 FR	1.10 FR	1.26 FR	1.80 FROP	2.30 FRP	2.30 FRP	3.00 FR	4.10 FRP	7.10 FR	11.00 FR
7/8	...	...	1.05 R	...	1.38 FR	1.95 FR	2.50 FR	2.50 FR	...	4.50 R	...	...
1	...	...	1.15 FR	1.30 FR	1.50 FR	2.10 FROP	2.75 FRO	2.75 FRP	3.60 FR	4.90 FRP	8.30 FR	12.70 FR
1 1/4	...	...	1.45 R	1.65 R	1.85 FR	2.40 FR	3.30 FR	3.30 FR	4.20 FR	5.60 FR	9.50 FR	14.50 FR
1 1/2	...	...	...	...	2.10 FR	2.80 FR	3.75 FR	3.75 FR	4.70 FR	6.30 FR	10.60 FR	16.10 FR
1 3/4	...	...	...	...	...	3.20 FR	4.20 FR	4.20 FR	7.00 R	...	...	...
2	...	...	...	...	2.70 FR	3.60 FR	4.60 FR	4.60 FR	5.90 FR	7.80 FR	12.80 FR	19.40 FR
2 1/2	...	...	...	...	...	4.40 R	5.50 FR	5.50 FR	9.40 FR	15.40 R	22.90 R	39.00 F
3	...	...	...	...	...	5.20 R	6.50 R	6.50 R	11.00 FR	18.00 R	26.50 R	...

Phillips Recessed Head Machine Screws

Rolled Thread—American Standard



Available made from steel or brass in standard sizes and finishes.

Prices on application.

Phillips Recessed Head Sheet Metal Screws

Self Tapping Types A and B

Revised September 1, 1942



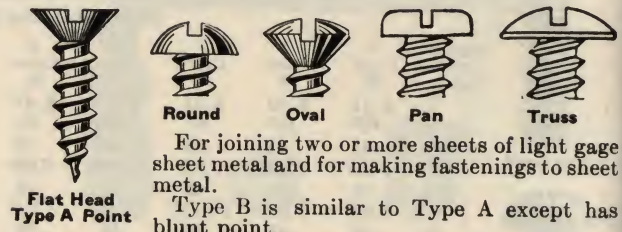
No. 4, Diameter				No. 8, Diameter				No. 12, Diameter			
Plain		*Plated Heads		Plain		*Plated Heads		Plain		*Plated Heads	
Lgth.	per	per	Avail-	Lgth.	per	per	Avail-	Lgth.	per	per	Avail-
In.	Gross	Gross	able	In.	Gross	Gross	able	In.	Gross	Gross	able
1/4	.45	.46	FROBT	3/8	.50	.53	FROBT	1/2	.68	.74	RB
3/8	.46	.47	FROBT	1/2	.52	.55	FROBT	5/8	.72	.78	RB
1/2	.47	.48	FROBT	5/8	.54	.58	FROBT	3/4	.76	.83	FRB
5/8	.49	.51	FROB	3/4	.56	.60	FROBT	7/8	.80	.88	RB
3/4	.51	.53	FROB	7/8	.59	.63	FROB	1	.84	.93	FRB
No. 6, Diameter				No. 10, Diameter				No. 14, Diameter			
1/4	.44	.46	FROBT	1	.62	.67	FROB	1 1/4	.95	1.05	FRB
3/8	.46	.48	FROBT	1 1/4	.69	.74	FROB	1 1/2	1.07	1.19	RB
1/2	.48	.50	FROBT	1 1/2	.78	.84	FROB				
5/8	.50	.52	FROB								
3/4	.52	.55	FROB								
7/8	.55	.58	FROB								
1	.58	.61	FROB								
No. 7, Diameter											
3/8	.48	.50	FROBT								
1/2	.50	.53	FROBT								
5/8	.52	.55	FROB								
3/4	.54	.57	FROB								
7/8	.57	.61	FROB								
1	.60	.64	FROB								

No. 4, Diameter				No. 8, Diameter				No. 12, Diameter			
1/4	.45	.46	FROBT	3/8	.50	.53	FROBT	1/2	.68	.74	RB
5/16	.46	.47	RBT	1/2	.52	.55	FROBT	3/8	.58	.70	RB
3/4	.46	.47	FROBT	5/8	.54	.58	FROBT	1/2	.68	.74	RB
1/2	.47	.48	FROB	3/4	.56	.60	FROB				
No. 6, Diameter				5/8	.59	.63	FROB				
1/4	.44	.46	FROBT	1	.62	.67	FROB				
5/16	.46	.48	FROBT	1 1/4	.69	.74	FRO				
3/8	.46	.48	FROBT	1 1/2	.79	.87	FRO				
1/2	.48	.50	FROB	1 1/2	.89	.98	FRO				
5/8	.50	.52	FROB	2	1.11	1.22	FRO				
3/4	.52	.55	FROB								
No. 7, Diameter											
3/8	.48	.50	RB								
1/2	.50	.53	RB								

*Plated finishes, barrel burnished. Prices for plated finishes cover nickel, cadmium and zinc.

American Slotted Head Sheet Metal Screws

Hardened—Self-Tapping



For joining two or more sheets of light gage sheet metal and for making fastenings to sheet metal.

Type B is similar to Type A except has blunt point.

Type A

Screw No.	Screw Diam.	Screw Lgth.	*Styles Heads Available	Plain Steel Fin. Per Gross	Plated Fin. Per Gross	Screw No.	Screw Diam.	Screw Lgth.	*Styles Heads Available	Plain Steel Fin. Per Gross	Plated Fin. Per Gross
4	1/4	3/8	RPT	.38	.40	10	3/8	1/2	RPT	.53	.61
	3/8	1/2	FROPT	.39	.41		1/2	3/4	FROPT	.55	.64
	1/2	5/8	FROPT	.40	.43		3/4	1	FROPT	.57	.67
	5/8	3/4	FROP	.42	.45		1	1 1/4	FROP	.60	.72
	3/4	7/8	FROP	.44	.48		1 1/4	1 1/2	FROP	.63	.76
6	1/4	1/2	RPT	.39	.42		1 1/2	2	FROP	.66	.80
	3/8	3/4	FROPT	.40	.44		2	2 1/2	FROP	.79	.95
	1/2	5/8	FROPT	.42	.46		2 1/2	3	FROP	.85	1.04
	5/8	3/4	FROP	.44	.49		3	3 1/2	FROP	.91	1.13
	3/4	7/8	FROP	.45	.51		3 1/2	4	FROP	.97	1.21
	7/8	1	FROP	.46	.53		4	4 1/2	RP	.67	.80
7	1	1 1/4	FROP	.48	.55		4 1/2	5	RP	.71	.85
	3/8	1/2	RPT	.42	.48		5	5 1/2	FRP	.75	.91
	1/2	3/4	FROPT	.44	.50		5 1/2	6	RP	.80	.97
	3/4	5/8	FROP	.45	.52		6	6 1/2	FRP	.85	1.04
	5/8	3/4	FROP	.46	.54		6 1/2	7	FRP	.95	1.17
	7/8	1	FROP	.48	.56		7	7 1/2	RP	1.05	1.30
8	1	1 1/4	FROP	.49	.58		7 1/2	8	RP	.79	.96
	3/8	1/2	RPT	.45	.50		8	8 1/2	RP	.85	1.04
	1/2	3/4	FROPT	.48	.54		8 1/2	9	FROP	.90	1.12
	3/4	5/8	FROPT	.50	.57		9	9 1/2	FROP	.96	1.21
	5/8	3/4	FROPT	.53	.61		9 1/2	10	FROP	1.02	1.29
	7/8	1	FROP	.56	.65		10	10 1/2	FROP	1.15	1.45
1	1 1/4	1 1/2	FROP	.60	.70		10 1/2	11	FRP	1.27	1.62
1 1/4	1 1/2	1 3/4	FROP	.65	.77		11	11 1/2	FRP	1.38	1.78
1 1/2	1 3/4	2	FROP	.70	.84		11 1/2	12	FRP	1.49	1.95

Type B

Screw No.	Screw Diam.	Screw Lgth.	*Styles Heads Available	Plain Steel Fin. Per Gross	Plated Fin. Per Gross	Screw No.	Screw Diam.	Screw Lgth.	*Styles Heads Available	Plain Steel Fin. Per Gross	Plated Fin. Per Gross
2	1/8	3/16	RP	.38	.40	8	3/4	1	FROP	.53	.61
	3/16	1/4	FROP	.38	.40		1	1 1/4	FROP	.56	.65
	1/4	3/8	RP	.38	.40		1 1/4	1 1/2	FRO	.60	.70
	3/8	1/2	RP	.38	.40		1 1/2	1 3/4	RPT	.65	.77
4	3/16	1/2	RPT	.38	.40		1 3/4	2	RPT	.53	.61
	1/4	3/4	FROPT	.38	.40		2	2 1/4	RPT	.53	.61
	3/8	1	RPT	.39	.41		2 1/4	2 1/2	FROPT	.53	.61
	1/2	1 1/4	FROPT	.39	.41		2 1/2	2 3/4	FROPT	.55	.64
	3/4	1 1/2	FROP	.40	.43		2 3/4	3	FROP	.57	.67
6	3/16	1 1/4	RPT	.39	.42		3	3 1/4	FROP	.60	.72
	1/4	1 1/2	FROPT	.39	.42		3 1/4	3 1/2	FROP	.63	.76
	3/8	1 3/4	FROPT	.40	.44		3 1/2	4	FROP	.66	.80
	1/2	2	FROPT	.40	.44		4	4 1/4	FRO	.79	.95
	3/4	2 1/4	FROP	.42	.46		4 1/4	4 1/2	FRO	.85	1.04
	5/8	2 1/2	FROP	.44	.49		4 1/2	5	FRO	.97	1.21
	7/8	2 3/4	FROP	.45	.51		5	5 1/4	RP	.63	.75
7	1/4	2	RP	.42	.48		5 1/4	5 1/2	RP	.67	.80
	3/8	2 1/4	RP	.42	.48		5 1/2	6	RPT	.73	.88
	1/2	2 1/2	RP	.42	.48		6	6 1/4	RPT	.79	.96
	3/4	2 3/4	RP	.44	.50		6 1/4	6 1/2	RPT	.85	1.04
8	1/4	2 1/2	RPT	.45	.50		6 1/2	7	FRP	.90	1.12
	3/8	2 3/4	RPT	.45	.50		7	7 1/4	FRP	.96	1.21
	1/2	3	FROPT	.45	.50		7 1/4	7 1/2	FR	1.02	1.29
	3/4	3 1/4	FROPT	.48	.54		7 1/2	8	FR	1.15	1.45
	5/8	3 1/2	FROPT	.50	.57		8	8 1/4	FR	1.27	1.62
							8 1/4	8 1/2	FR	1.49	1.95

*F—flat head; R—round head; O—oval head; P—pan head; T—truss head.

†Nickel, cadmium, zinc.

Decimal equivalents: No. 2 diameter, .086; No. 4, .112; No. 6, .138; No. 7, .155; No. 8, .165; No. 10, .191; No. 12, .218; and No. 14, .251.

Type 1 Shakeproof Steel Thread-Cutting Screws



Standard Round



Slotted Head



Hexagon Head

For all metals. Spring-action slot provides a serrated cutting edge which results in a strong, tight fastening.

Hexagon head screws under 1/4-inch diameter have same prices as slotted head. All hexagon heads are indented.

Prices for plated screws cover cadmium.

Other finishes are quoted upon request.



Round B



Oval
O



Flat
C



Pan
P



Truss



Fillister



Indented Hexagon H

Screw Diam. Gage No. & In.	Lgth. Stand. Screw Style In. Heads	Plain per 1000	Plated per 1000	Screw Diam. Gage No. & In.	Lgth. Screw In.	Stand. Style Heads	Plain per 1000	Plated per 1000
No. 4	$\frac{3}{16}$ R	\$3.22	\$3.31	No. 10	$\frac{3}{4}$ RCP		\$5.51	\$6.14
40	$\frac{1}{4}$ RP	3.27	3.36	32	$\frac{7}{8}$		5.80	6.49
Thrds.	$\frac{3}{16}$	3.29	3.38	Thrds.	1	.....	6.02	6.83
	$\frac{3}{8}$ R	3.33	3.45		$1\frac{1}{4}$	.....	6.91	7.84
	$\frac{7}{16}$	3.36	3.45		$1\frac{1}{2}$	.....	7.71	8.77
	$\frac{1}{2}$	3.42	3.57	No. 12	$\frac{3}{8}$		5.53	6.13
	$\frac{5}{8}$	3.58	3.74	24	$\frac{1}{2}$		5.87	6.58
	$\frac{3}{4}$	3.71	3.92	Thrds.	$\frac{5}{8}$		6.22	6.98
No. 6	$\frac{3}{16}$ R	3.36	3.54		$\frac{3}{4}$		6.55	7.41
32	$\frac{1}{4}$ RCP*H	3.42	3.60		$\frac{7}{8}$		6.93	7.90
Thrds.	$\frac{5}{16}$ R	3.51	3.70	1	.....		7.27	8.34
	$\frac{3}{8}$ ROCPS	3.60	3.81		$1\frac{1}{4}$	.....	8.31	9.54
	$\frac{7}{16}$	3.64	3.86		$1\frac{1}{2}$	.....	9.71	10.54
	$\frac{1}{2}$ ROP	3.73	3.98					
	$\frac{5}{8}$ R	3.93	4.22	$\frac{1}{4}$	$\frac{3}{8}$ R		6.91	7.78
	$\frac{3}{4}$ ROC	4.11	4.43	20	$\frac{1}{2}$ RC		7.42	8.38
1	$\frac{7}{8}$	4.31	4.67	Thrds.	$\frac{5}{8}$		7.87	8.97
		4.53	4.93		$\frac{3}{4}$ RC		8.33	9.55
					$\frac{7}{8}$		8.73	10.05
No. 8	$\frac{1}{4}$ RP	3.98	4.26	1	RC		9.20	10.64
32	$\frac{5}{16}$ RP	4.07	4.39		$1\frac{1}{4}$ C		10.44	12.13
Thrds.	$\frac{3}{8}$ RCP	4.20	4.50		$1\frac{1}{2}$ C		11.44	13.35
	$\frac{7}{16}$	4.31	4.65					
	$\frac{1}{2}$ ROCP	4.40	4.79	$\frac{1}{4}$	$\frac{3}{8}$		8.98	9.93
	$\frac{5}{8}$ ROCP	4.60	5.05	20	$\frac{1}{2}$ H		9.13	10.17
	$\frac{3}{4}$ ROP	4.82	5.31	Thrds.	$\frac{5}{8}$		9.51	10.65
	$\frac{7}{8}$	5.07	5.64		$\frac{3}{4}$ H		9.91	11.16
1	ROP	5.31	5.93		$\frac{7}{8}$		10.18	11.62
	$1\frac{1}{4}$	6.15	6.77	1	H		10.78	12.32
	$1\frac{1}{2}$	6.73	7.37		$1\frac{1}{4}$		12.20	13.92
					$1\frac{1}{2}$		14.15	16.17
No. 10	$\frac{1}{4}$ R	4.36	4.73					
24	$\frac{5}{16}$ RP	4.49	4.90	$\frac{5}{16}$	$\frac{1}{2}$		11.07	12.53
Thrds.	$\frac{3}{8}$ RPH	4.60	5.04	18	$\frac{5}{8}$		11.80	13.48
	$\frac{1}{2}$ ROCPSH	4.93	5.42	Thrds.	$\frac{3}{4}$		12.49	14.37
	$\frac{5}{8}$ RCP	5.27	5.83		$\frac{7}{8}$		13.27	15.34
	$\frac{3}{4}$ ROCP	5.51	6.14	1	.....		14.04	16.33
	$\frac{7}{8}$	5.80	6.49		$1\frac{1}{4}$		15.82	18.52
1	RP	6.02	6.83		$1\frac{1}{2}$		17.35	20.44
	$1\frac{1}{4}$	6.91	7.84					
	$1\frac{1}{2}$	7.71	8.77	$\frac{5}{16}$	$\frac{1}{2}$		11.58	13.23
No. 10	$\frac{1}{4}$ R	4.36	4.73	18	$\frac{5}{8}$		12.44	14.29
32	$\frac{5}{16}$	4.49	4.90	Thrds.	$\frac{3}{4}$		13.20	15.25
Thrds.	$\frac{3}{8}$ RP	4.60	5.04		$\frac{7}{8}$		14.04	16.30
	$\frac{1}{2}$ RP	4.93	5.42	1	.....		14.84	17.29

*Slotted indented hexagon head.

†Slotted heads only.

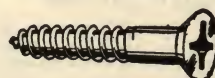
†Hexagon heads only.

Phillips head services available; prices on request.

Phillips Recessed Head Wood Screws



Round Head



Flat Head



Oval Head

Steel

No. 2			No. 6			No. 9			No. 14		
Plain*Plated			Continued Plain*Plated			Continued Plain*Plated			Plain*Plated		
Lgth. In.	per Gross	per Gross	Lgth. In.	per Gross	per Gross	Lgth. In.	per Gross	per Gross	Lgth. In.	per Gross	per Gross
1/4	\$.60	\$.62	1	\$.53	\$.56	13/4	\$.84	\$.92	11	\$.79	\$.89
5/16	\$.56	\$.58	1 1/4	.57	.61	12	.95	1.04	11 1/4	.87	.99
3/8	\$.52	\$.54	1 1/2	.65	.69	12 1/2	1.20	1.32	11 1/2	1.00	1.14
1/2	.41	.43	No. 7			No. 10			11 3/4	1.13	1.29
5/8	.43	.45	1 1/2	\$.46	\$.48				12	1.28	1.46
No. 3			1 5/8	.48	.51				12 1/4	1.45	1.65
1 3/8	\$.50	\$.52	3/4	.50	.53	1 3/4	\$.56	\$.61	12 1/2	1.62	1.84
1 1/2	.42	.44	7/8	.52	.55	1	.62	.68	13	1.98	2.24
5/8	.44	.46	1	.55	.59	1 1/4	.68	.75	13 1/2	2.31	2.61
No. 4			1 1/4	.59	.64	1 1/2	.78	.86	14	2.70	3.04
1/4	\$.56	\$.58	1 1/2	.67	.72	1 3/4	.89	.99	No. 16		
3/8	.48	.50	No. 8			2	1.01	1.12			
1/2	.43	.45	1 1/2	\$.48	\$.51	2 1/4	1.14	1.26	1	\$.94	\$.96
5/8	.45	.47	5/8	.50	.53	2 1/2	1.28	1.41	1 1/4	1.03	1.18
3/4	.47	.49	3/4	.52	.56	13	1.57	1.73	1 1/2	1.17	1.34
1 3/8	.49	.51	7/8	.54	.58	13 1/2	1.88	2.06	1 3/4	1.32	1.52
1	.51	.53	1	.57	.61	No. 12			12	1.48	1.70
No. 5			1 1/8	.59	.64				12 1/2	1.83	2.10
3/8	\$.42	\$.44	1 1/4	.62	.67	1 3/4	\$.63	\$.69	13	2.21	2.53
1/2	.44	.46	1 1/2	.70	.76	1 7/8	.66	.73	13 1/2	2.61	2.98
5/8	.46	.48	1 3/4	.79	.86	1	.69	.77	14	3.03	3.45
3/4	.48	.50	12	.89	.97	1 1/4	.76	.85	No. 18		
1 7/8	.50	.52	12 1/2	1.12	1.22	1 1/2	.88	.99	1 1/2	\$.147	\$.168
1	.52	.55	No. 9			1 3/4	1.00	1.13	2	1.80	2.07
No. 6			1 3/4	\$.54	\$.58	2	1.13	1.27	2 1/2	2.15	2.48
3/8	\$.43	\$.45	1 7/8	.56	.61	2 1/4	1.28	1.44	3	2.54	2.92
1/2	.45	.47	1	.59	.64	2 1/2	1.44	1.61	3 1/2	2.96	3.40
5/8	.47	.49	1 1/4	.65	.71	13	1.76	1.96	14	3.43	3.93
3/4	.49	.52	1 1/2	.74	.81	13 1/2	2.08	2.32			
7/8	.51	.54	Continued								
Continued											

Brass

[illegible]

*Barrel burnished. Prices cover nickel, cadmium, zinc, hot galvanized and blued.

†Ball burnished.

‡Supplied flat and round head only.

§Supplied flat head only.

|| Supplied round head only.

Lengths, diameters, and head styles not listed are special ;
prices on application.

Driver Size No.—Nos. 2, 3 and 4 use No. 1; Nos. 5, 6, 7, 8 and 9 use No. 2; No. 10, round head uses No. 2, flat and oval heads take No. 3; Nos. 12, 14 and 16 use No. 3 and No. 18 uses No. 4 driver.

Continental Wood Screws

Flat, Round, and Oval Slotted Heads



Flat



Round



Oval

Steel Wood Screws—Per Gross

No.	LENGTH OF SCREWS, INCHES															
	1/4	3/8	1/2	5/8	3/4	7/8	1	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	3	3 1/2	4
2	\$.88 FR	\$.92 FR	\$.96 FR	\$1.00 FR	....	....	....	....	....	....	....	....	....	....	....	....
392 FR	.96 FR	1.00 FR	....	....	....	....	....	....	....	....	....	....	....	....
4	.92 FRO	.96 FRO	1.00 *FRO	1.04 *FRO	\$1.08 *FRO	\$1.12 FR	\$1.20 FR	\$1.42 F	....	....	....	....	....	....	....	....
596 FR	1.00 FRO	1.04 FRO	1.08 FRO	1.12 FR	1.20 FRO	1.42 F	....	....	....	....	....	....	....	....
6	1.00 FRO	1.04 *FRO	1.08 *FRO	1.12 *FRO	1.20 *FRO	1.32 *FRO	1.50 FRO	\$1.66 FRO	....	....	....	....	....	....	....
7	1.08 FR	1.12 FR	1.20 FRO	1.28 FR	1.40 FRO	1.54 FRO	1.70 FRO	....	....	....	....	....	....	....
8	1.16 FR	1.20 FRO	1.28 *FRO	1.36 *FRO	1.46 *FRO	1.62 *FRO	1.80 *FRO	\$2.00 *FR	\$2.20 *FR	....	\$2.62 FR	....	....	....
9	1.42 *FR	1.50 FR	1.58 *FR	1.74 *FR	1.96 FR	2.18 F	2.38 FR	....	2.80 F	....	....	....
10	1.58 FR	1.66 FR	1.74 *FRO	1.92 *FRO	2.12 *FRO	2.34 *FRO	2.56 *FRO	\$2.80 F	3.04 *FR	\$3.54 FR	\$4.92 F	....
12	1.80 FR	1.96 FR	2.12 *FR	2.30 *FRO	2.54 *FRO	2.84 *FRO	3.14 *FRO	3.46 F	3.78 *FR	4.80 *FR	5.84 F	....
14	2.62 FR	2.96 FR	3.30 *FR	3.64 *FR	3.98 *FR	4.34 F	4.84 *FR	6.00 *FR	7.16 F	\$8.00 F
16	3.92 F	4.34 F	4.75 F	5.16 *F	....	6.34 *F	7.50 *F	8.35 F	9.15 F
18	5.30 F	....	6.40 F	....	7.90 F	9.40 F	10.45 F	11.70 F

*Drive screws in flat head steel only

Brass Wood Screws—Per Gross

No.	LENGTH OF SCREWS, INCHES												
	1/4	3/8	1/2	5/8	3/4	7/8	1	1 1/4	1 1/2	1 3/4	2	2 1/2	3
2	\$1.12 FR	\$1.22 FR	\$1.34 FR	....	....	....	....	....	....	....	....	....	....
3	1.32 F	1.44 F	....	....	....	....	....	....	....	....	....	....
4	1.30 FR	1.44 FRO	1.58 FRO	\$1.76 FRO	\$1.96 FRO	\$2.16 F	\$2.38 FR	....	....	....	....	....	....
5	1.74 FRO	1.96 FRO	2.20 FRO	2.42 F	2.64 FRO	....	....	....	....	....	....
6	1.75 R	1.94 FRO	2.20 FRO	2.45 FRO	2.70 FRO	2.98 FRO	\$3.46 FRO	\$4.08 FRO	....	....	....	....
7	2.84 FR	3.14 F	3.44 FRO	4.05 FRO	4.68 FR	....	....	....	....
8	2.50 FR	2.84 FRO	3.18 FRO	3.52 FRO	3.85 FRO	4.52 FRO	5.20 FRO	\$5.88 FR	\$6.54 FRO	....	....
9	3.52 FR	3.92 F	4.30 FR	5.10 FR	5.88 FR	....	....	....	....
10	3.98 FR	4.40 FR	4.86 FRO	5.65 FRO	6.58 FRO	7.45 FR	8.38 FRO	\$10.38 FR	....
12	6.25 FR	7.28 FR	8.44 FR	9.58 FR	10.98 FR	13.70 FR	\$15.98 F
14	9.32 F	10.80 F	12.28 F	13.70 FR	17.08 FR	20.34 F
16	21.34 F	25.10 F

Letters indicate the style of head for a particular size of screw, thus: F—flat head
R—round head
O—oval head

Lengths, diameters and head styles not listed are special; but are furnished to the extent they may be in stock, or when required in sufficient quantities of a size to warrant being made to order.

Ackerman-Johnson Expansive Screw Anchors



For attaching fixtures or wiring to any hard surface as brick, concrete, stone or marble, slate, etc.

Sleeve expands over tapered formations of nut against all sides of hole. Installed completely before work is attached. Holding power exceeds the tensile strength of screw or bolts to be used with them.

Threaded for machine screws or bolts.
Furnished without screws.

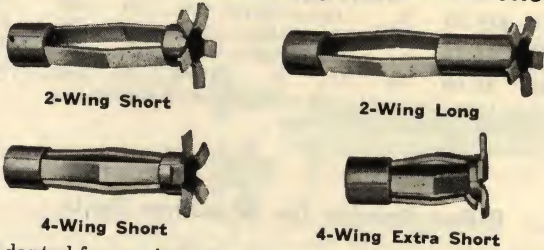
Size No. and Threads per Inch	Per 100	MINIMUM DIMENSIONS OF HOLES REQUIRED INCHES		Std. Qty. per Box	Shipping Weight Pounds per 100
		Diam.	Depth.		
6 x32	\$6.00	1/4	3/8	50-100	7/8
8 x32	6.50	5/16	1/2	50-100	1 1/3
10 x24	7.50	3/8	5/8	50-100	2 3/8
12 x24	9.50	7/16	3/4	50-100	3 3/4
1/4x20	11.00	1/2	7/8	50-100	5 1/4
5/16x18	15.00	5/8	1	50-100	9
3/8x16	20.00	3/4	1 1/4	50-100	14 3/4
7/16x14	26.00	7/8	1 1/2	50-100	21 3/4
1/2x13	26.00	7/8	1 1/2	50-100	21 1/2
5/8x11	50.00	1 1/8	2	50-100	46
3/4x10	75.00	1 1/4	2 1/4	50-100	64
7/8x9	120.00	1 1/2	2 3/4	25-50	110
1 x8	180.00	1 3/4	3 1/2	25-50	192

Ackerman-Johnson Piloted Setting Punches



One included without charge in each box of anchors.

Ackerman-Johnson Toggle Screw Anchors

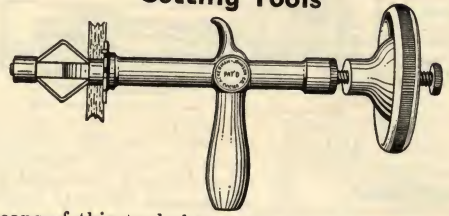


Adapted for use in any wall structure too thin or too soft for the proper use of an expansion bolt, or expansive screw anchor. The extra short type is designed for use in sheet metal and other thin panels.

The toggle-screw anchor is set in place independently and permanently before the fixtures are attached; remains rigidly in position while screws and fixtures are applied.

Size Screw	Per 100	Length	For Wall Thick. Inches	No. Wings	Holes to Drill Inches	Ship. Wt. Lbs. per 100
8x32	\$12.50	Ex. Short	0 to 3/16	4	3/8	1 1/2
8x32	13.00	Short	3/16 to 5/8	2	3/8	1 1/2
8x32	13.00	Short	3/16 to 5/8	4	3/8	2
8x32	13.50	Long	5/8 to 1 1/4	2	3/8	2 1/4
8x32	13.50	Long	5/8 to 1 1/4	4	3/8	2 1/2
10x24	13.50	Ex. Short	0 to 3/16	4	7/16	2 1/4
10x24	14.00	Short	3/16 to 5/8	2	7/16	2 1/2
10x24	14.00	Short	3/16 to 5/8	4	7/16	2 3/4
10x24	14.50	Long	5/8 to 1 1/4	2	7/16	3 1/4
10x24	14.50	Long	5/8 to 1 1/4	4	7/16	3 1/2
10x24	15.00	Ex. Long	1 1/4 to 1 3/4	2	7/16	3 3/4
1/4"x20	14.50	Ex. Short	0 to 3/16	4	1 1/8	2 1/2
1/4"x20	15.00	Short	3/16 to 5/8	2	1 1/8	3
1/4"x20	15.00	Short	3/16 to 5/8	4	1 1/8	3 1/4
1/4"x20	15.50	Long	5/8 to 1 1/4	2	1 1/8	4
1/4"x20	15.50	Long	5/8 to 1 1/4	4	1 1/8	4 1/4
1/4"x20	16.00	Ex. Long	1 1/4 to 1 3/4	2	1 1/8	5 3/4

Ackerman-Johnson Toggle Screw Anchor Setting Tools



By means of this tool the toggle screw anchor is set into position. Any object may then be attached or detached by means of a machine screw of suitable size.

Access to only the front side of wall is sufficient.

For Anchor Screw Size.....	8x32	10x24	1/4"x20
Each.....	\$2.50	\$2.80	\$3.00
Extra Draw Spindle.....each	.60	.60	.90

No. 2 Pak-Tite Anchors

Complete with Bolts and Nuts—Galvanized



For nut out work. Length to use: Drilling depth + thickness of fixture + diameter of bolt (approximate nut thickness). Setting tool included with box of 100 anchors.
Longer sizes, prices upon application.

Bolt Diam. In.	Drill In.	Drill Depth In.	Per 100									
			LENGTH, INCHES									
1/4	1/2	1	\$8.80	\$8.95	\$9.00	\$9.25	\$9.50	\$9.75	\$10.00	...	...	...
5/16	1/2	1 1/4	...	10.45	10.60	10.95	11.30	11.65	12.00	...	...	...
3/8	5/8	1 1/2	...	...	15.00	15.50	16.00	16.50	17.00	\$18.00	\$19.00	...
1/2	7/8	2	...	...	...	...	34.00	36.00	38.00	42.00	47.00	...

Bolt Diam. In.	Weight Pounds per 100									
	LENGTH, INCHES									
1/4	1 1/2	1 3/4	2	2 1/2	3	3 1/2	4	5	6	...
5/16	6 1/2	6 3/4	7	7 1/4	8	8 3/4	10	...	...	...
3/8	...	9 1/8	9 3/4	10	11 1/8	11 7/8	12 3/8	...	...	...
1/2	...	...	14 1/2	15 3/4	17	18	19 7/8	22 1/2	25	...
			...	...	43 1/4	45	46 1/2	50 1/2	59 1/2	...

Extra Units

For very heavy loads, extra units can be supplied to make deeper anchorages.

Size.....inches	1/4	5/16	3/8	1/2
Cones.....per 100	\$2.00	\$2.00	\$4.00	\$11.00
Sleeves.....per 100	3.50	4.50	6.00	12.50

*100 per package. †50 per package.

Style 1 Ajax Expansion Bolts

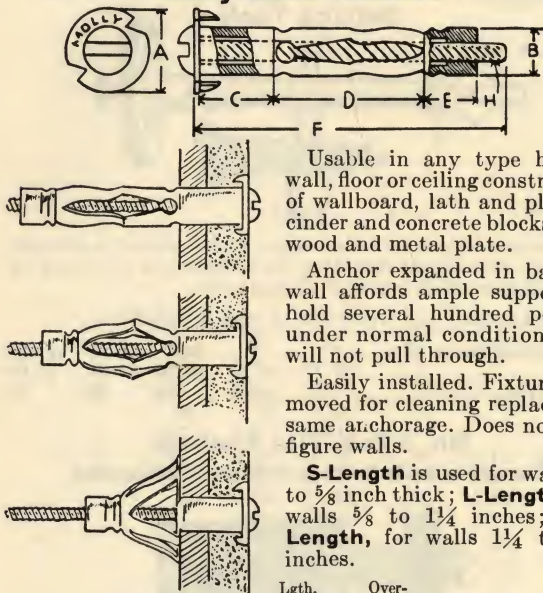
Extension sleeves are provided on all bolts over 1 1/2 inches long.

These bolts are furnished with nickel-plated screws, plain brass screws or iron screws.



Size In.	PRICE, PER 100									
	LENGTH, INCHES									
5/32	1	1 1/4	1 1/2	2	2 1/2	3	4	...	...	...
3/16	\$5.50	\$6.00	\$6.50	\$7.50	...	...	...	...	...	...
1/4	6.00	6.50	7.00	8.00	\$10.00	\$12.50	...	...	...	...
	9.00	9.50	10.00	11.50	13.50	16.00	\$24.00	...	...	...
	Machine Screw Thread		Length Shell Inches		Diam. Shell Inches		PRICE, PER 100 SHIELDS, ONLY			
5/32	8-32		3/4		5/16		\$4.50			
3/16	10-24		3/4		5/16		4.50			
1/4	14-20		3/4		5/8		6.50			

Molly Screw Anchors



Usable in any type hollow wall, floor or ceiling constructed of wallboard, lath and plaster, cinder and concrete blocks, plywood and metal plate.

Anchor expanded in back of wall affords ample support to hold several hundred pounds under normal conditions and will not pull through.

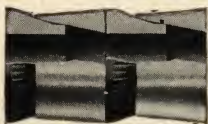
Easily installed. Fixtures removed for cleaning replaced in same anchorage. Does not disfigure walls.

S-Length is used for walls $\frac{1}{16}$ to $\frac{5}{8}$ inch thick; **L-Length**, for walls $\frac{5}{8}$ to $1\frac{1}{4}$ inches; **XL-Length**, for walls $1\frac{1}{4}$ to $1\frac{3}{4}$ inches.

No.	Per 100	Head Dia. In.	Body Dia. In.	Sleeve Lgth. In.	Ex- pand Lgth. In.	Nut Lgth. In.	Over- all Lgth. In.	Bolt Size	Max. Exp. In.	No. per Box
4-S	\$9.90	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{4}$	$\frac{1}{4}$	$1\frac{3}{8}$	6-32	$\frac{13}{16}$	100
4-L	10.18	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{7}{8}$	$\frac{3}{4}$	$\frac{1}{4}$	$1\frac{7}{8}$	6-32	$\frac{13}{16}$	100
4-XL	13.20	$\frac{1}{2}$	$\frac{1}{4}$	$1\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{4}$	$2\frac{1}{2}$	6-32	$\frac{13}{16}$	100
6-S	15.40	$\frac{5}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$1\frac{1}{8}$	$\frac{3}{8}$	$2\frac{1}{4}$	10-24	$1\frac{1}{8}$	50
6-L	15.68	$\frac{5}{8}$	$\frac{3}{8}$	$\frac{7}{8}$	$1\frac{1}{8}$	$\frac{3}{8}$	$2\frac{3}{4}$	10-24	$1\frac{1}{8}$	50
6-XL	17.60	$\frac{5}{8}$	$\frac{3}{8}$	$1\frac{1}{2}$	$1\frac{1}{8}$	$\frac{3}{8}$	$3\frac{1}{2}$	10-24	$1\frac{1}{8}$	50
8-S	15.95	$1\frac{1}{16}$	$\frac{7}{16}$	$\frac{3}{8}$	$1\frac{1}{8}$	$\frac{3}{8}$	$2\frac{1}{4}$	$\frac{1}{4}$ -20	$1\frac{1}{8}$	50
8-L	16.23	$1\frac{1}{16}$	$\frac{7}{16}$	$\frac{7}{8}$	$1\frac{1}{8}$	$\frac{3}{8}$	$2\frac{3}{4}$	$\frac{1}{4}$ -20	$1\frac{1}{8}$	50
8-XL	19.80	$1\frac{1}{16}$	$\frac{7}{16}$	$1\frac{1}{2}$	$1\frac{1}{8}$	$\frac{3}{8}$	$3\frac{1}{2}$	$\frac{1}{4}$ -20	$1\frac{1}{8}$	50

National Standard Cinch Anchors

Unassembled and Without Ring



2-Unit Anchorage, Plain



2-Unit Anchorage, Threaded



3-Unit Anchorage, Plain

consists of 6 pieces—3 cones and 3 lead alloys—without bolts. Two units plain and 1 unit threaded, or all 3 units plain.

2-Unit Anchorage consists of 4 pieces—2 cones and 2 lead alloys—without bolts. One unit plain and 1 unit threaded, or both units plain.

3-Unit Anchorage consists of 6 pieces—3 cones and 3 lead alloys—without bolts. Two units plain and 1 unit threaded, or all 3 units plain.

Diam. Bolt Inches	Diam. Hole and Drill Required Inches	2-Unit Anchor		3-Unit Anchor	
		Without Bolts Per 100 Sets	Minimum Depth Hole Inches	Without Bolts Per 100 Sets	Minimum Depth Hole Inches
$\frac{1}{4}$	$\frac{5}{8}$	\$16.00	$1\frac{1}{16}$	\$24.00	$1\frac{5}{8}$
$\frac{5}{16}$	$\frac{5}{8}$	18.00	$1\frac{1}{16}$	27.00	$1\frac{5}{8}$
$\frac{3}{8}$	$1\frac{1}{16}$	22.00	$1\frac{1}{2}$	33.00	$2\frac{1}{4}$
$\frac{1}{2}$	1	36.00	$1\frac{3}{4}$	54.00	$2\frac{5}{8}$
$\frac{5}{8}$	$1\frac{1}{8}$	48.00	$1\frac{7}{8}$	72.00	$2\frac{7}{8}$
$\frac{3}{4}$	$1\frac{3}{8}$	70.00	$2\frac{1}{2}$	105.00	$3\frac{3}{4}$
$\frac{7}{8}$	$1\frac{1}{2}$	88.00	$2\frac{3}{4}$	132.00	4
1	$1\frac{5}{8}$	126.00	$3\frac{1}{4}$	189.00	$4\frac{7}{8}$
$1\frac{1}{8}$	2	280.00	$4\frac{1}{2}$	420.00	6
$1\frac{1}{4}$	$2\frac{1}{8}$	300.00	$4\frac{3}{4}$	450.00	$6\frac{1}{4}$
$1\frac{1}{2}$	$2\frac{3}{8}$	440.00	$5\frac{1}{4}$	660.00	$7\frac{1}{4}$
$1\frac{3}{4}$	$3\frac{1}{2}$	640.00	8	960.00	12

Cinch Brand Calking Tools



Diam. Bolt...in.	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1
Each.....	\$1.00	1.00	1.20	1.70	3.00	3.60	4.20	6.80

Used for expanding all Cinch units.

No. 900 Paine Lead Expansion Anchors



Machine Screw Type

Steel cone, plated and machined to special specifications, and lead expansion sleeve. Entrance to cone is countersunk for ease in starting screw. Packed 50 in a box.

Size No.	*Per 100	MIN. DIAM. OF HOLES REQ. Diameter	IN.—Depth	Average Breaking Point, Lb.
6-32	\$6.00	$\frac{5}{16}$	$\frac{1}{2}$	746
8-32	6.50	$\frac{3}{8}$	$\frac{1}{2}$	1034
10-24	7.50	$\frac{5}{16}$	$\frac{5}{8}$	1204
12-24	9.50	$\frac{1}{2}$	$\frac{7}{8}$	2252
$\frac{1}{4}$ -20	11.00	$\frac{1}{2}$	$\frac{7}{8}$	2620
$\frac{5}{16}$ -18	15.00	$\frac{5}{8}$	1	3854
$\frac{3}{8}$ -16	20.00	$\frac{3}{4}$	$1\frac{1}{4}$	4204
$\frac{1}{2}$ -13	26.00	$\frac{7}{8}$	$1\frac{1}{2}$	5584
$\frac{5}{8}$ -11	50.00	$1\frac{1}{8}$	$1\frac{3}{4}$	10398
$\frac{3}{4}$ -10	75.00	$1\frac{1}{4}$	$2\frac{1}{4}$	12500
$\frac{7}{8}$ -9	120.00	$1\frac{1}{2}$	$2\frac{3}{4}$	14000
1-8	180.00	$1\frac{3}{4}$	$3\frac{1}{2}$	16000

*Prices do not include screws.

No. 3600 Star Loxin Expansion Shields

For Use with Machine Bolts
Rustproof



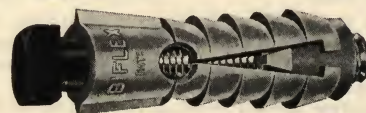
Listed by Underwriters' Laboratories

When no length is specified, long standard shield will be furnished.

Long Standard Sizes										Std. Shipping Carton per 100	Ship. Wt. per 100
No.	With- out Bolts per 100	Diam. of Bolt In.	Length of Shield Inches	Outside Diameter and Drill Required Inches	Safe Wkg. Load Lb.	Std. Pkg.	Std. Pkg.	Std. Pkg.	Std. Pkg.		
3615	\$15.00	$\frac{1}{4}$	$1\frac{1}{4}$	$\frac{1}{2}$	200	50	500	3			
*3616	15.00	$\frac{1}{4}$	$2\frac{1}{2}$	$\frac{1}{2}$	200	50	500	6 $\frac{1}{2}$			
3620	18.00	$\frac{5}{16}$	2	$\frac{5}{8}$	300	50	500	7			
3625	25.00	$\frac{3}{8}$	2	$\frac{5}{8}$	450	50	500	7			
3630	32.00	$\frac{1}{2}$	$2\frac{1}{2}$	$\frac{7}{8}$	1000	25	250	16			
3635	38.00	$\frac{1}{2}$	$2\frac{1}{2}$	$\frac{7}{8}$	1000	25	250	15 $\frac{1}{2}$			
3645	45.00	$\frac{5}{8}$	3	1	1500	25	125	23 $\frac{1}{2}$			
3655	65.00	$\frac{3}{4}$	$3\frac{1}{2}$	$1\frac{1}{8}$	2000	10	100	32 $\frac{1}{2}$			
Short Standard Sizes										Std. Shipping Carton per 100	Ship. Wt. per 100
No.	With- out Bolts per 100	Diam. of Bolt In.	Length of Shield Inches	Outside Diameter and Drill Required Inches	Safe Wkg. Load Lb.	Std. Pkg.	Std. Pkg.	Std. Pkg.	Std. Pkg.		
3623	\$18.00	$\frac{5}{16}$	$1\frac{1}{2}$	$\frac{5}{8}$	200	50	500	5 $\frac{1}{2}$			
3628	25.00	$\frac{3}{8}$	$1\frac{1}{2}$	$\frac{5}{8}$	300	50	500	6			
3638	38.00	$\frac{1}{2}$	2	$\frac{7}{8}$	700	25	250	13 $\frac{1}{2}$			
3648	45.00	$\frac{5}{8}$	$2\frac{1}{2}$	1	1000	25	125	20			

*Extra long, only shipped when ordered special.

Biflex Shields for Machine Bolts



Made of malleable iron. The tube on nut fits in shield, holding nut in alignment to receive bolt. Also guides bolt compelling it to engage threads in the nuts.

Lugs meet back of triangular projection, locking nut in shield. Fins prevent shield from turning in wall.

Triangular projections prevent nut from turning in shield. Expansion plane in shield tapers from head end of nut down to bolt diameter, producing greatest possible expansion.

Bolt Size In.	Threads per Inch	Drill Size In.	Length Over All Inches	Recommended Drilling Depth, In.	Per 100
$\frac{1}{4}$	20	$\frac{1}{2}$	$1\frac{3}{8}$	$1\frac{1}{4}$	\$15.00
$\frac{5}{16}$	18	$\frac{9}{16}$	$1\frac{1}{2}$	$1\frac{3}{8}$	18.00
* $\frac{3}{8}$	16	$1\frac{1}{16}$	$1\frac{7}{8}$	$1\frac{5}{8}$	25.00
$\frac{7}{8}$	16	$1\frac{1}{16}$	$2\frac{1}{4}$	$2\frac{1}{8}$	25.00
* $\frac{1}{2}$	13	$\frac{7}{8}$	$2\frac{1}{8}$	$1\frac{7}{8}$	38.00
$\frac{1}{2}$	13	$\frac{7}{8}$	$2\frac{1}{8}$	$2\frac{1}{8}$	38.00
$\frac{5}{8}$	11	1	$2\frac{3}{4}$	$2\frac{1}{2}$	45.00
$\frac{3}{4}$	10	$1\frac{1}{8}$	3	$2\frac{3}{4}$	65.00

*Short.

†Long.

Star Stazin Lag Screw Expansion Shields

No. 1800



Made of a special alloy, rust-proof throughout.
Threads bear completely on root diameter of lag screw.
External corrugations or ribs. End sections are reinforced.

Long

No.	Per 100 Less Bolts	Diam. Lag Screw Inches	Length Inches	O.D., In. and Drill Req.	No. in Std. Pkg.	Ship. Wt. Lb. per 100
1815	\$15.00	1/4	1 1/2	1/2	50	5
1820	18.00	5/16	1 3/4	1/2	50	5
1825	25.00	3/8	2 1/2	5/8	50	9 1/2
1835	38.00	1/2	3	3/4	25	14
1845	45.00	5/8	3 1/2	7/8	25	22
1855	65.00	3/4	3 1/2	1	10	29

Short

No.	Per 100 Less Bolts	Diam. Lag Screw Inches	Length Inches	O.D., In. and Drill Req.	No. in Std. Pkg.	Ship. Wt. Lb. per 100
1818	\$15.00	1/4	1	1/2	50	3
1823	18.00	5/16	1 1/4	1/2	50	3
1828	25.00	3/8	1 3/4	5/8	50	7
1838	38.00	1/2	2	3/4	25	10 1/2
1848	45.00	5/8	2	7/8	25	12 1/2
1858	65.00	3/4	2	1	10	16

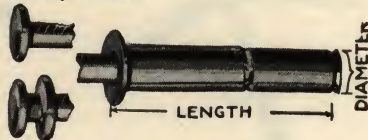
Long shield will be furnished unless otherwise specified.

No. 3900 Star Dryvin Hammer-Drive Anchors

Listed by Underwriters' Laboratories
Rustproofed

SINGLE HEAD NAIL

*DOUBLE HEAD NAIL

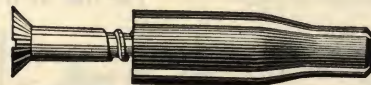


Dryvins furnished regularly with single-head nails. Dryvins with double-head nails can be furnished in practically all sizes at no extra charge.

Dryvins are designated by the diameter and length of the shield. This is marked on each size. The diameter is the actual diameter of the shield. This also is the nominal diameter of both the mounting hole and proper size drill required. The length of the Dryvin is measured from the top flange to the bottom flange of the shield. This is not the nail length.

No.	Complete with Nails Per 100	Size Diam. Lgth. of Shield Inches	O.D. and Drill Required Inch	Work. Load Lb.	No. in Std. Pkg.	No. in Std. Ship. Ctn.	Ship. Wt., Lb. per 100
3910	\$8.00	3/16 x 7/8	3/16	60	100	500	1
3911	9.00	3/16 x 1 1/4	3/16	100	100	500	1 1/2
3915	10.00	1/4 x 1	1/4	200	100	500	2
3916	11.00	1/4 x 1 1/4	1/4	250	100	500	2 3/4
3917	12.00	1/4 x 1 1/2	1/4	300	50	250	3
3920	14.00	5/16 x 1 1/4	5/16	250	50	250	4
3921	16.00	5/16 x 1 3/4	5/16	300	25	250	5
3923	18.00	5/16 x 2 1/4	5/16	300	25	250	6 1/2
3924	20.00	5/16 x 2 3/4	5/16	300	25	250	7 1/2
3926	18.00	3/8 x 1 1/2	3/8	400	100	500	7
3927	20.00	3/8 x 2	3/8	450	25	250	8 1/4
3929	25.00	3/8 x 3 1/4	3/8	500	50	250	12
3935	25.00	1/2 x 1	1/2	200	100	500	9
3937	30.00	1/2 x 2 1/4	1/2	500	50	250	16
3938	32.00	1/2 x 2 3/4	1/2	550	50	250	19
3939	35.00	1/2 x 3 1/2	1/2	600	50	250	23

Holub Sand Scott Plastic Expanding Screw Anchors



A universal, all purpose type anchor for use in any material including plaster, concrete, brick, marble, slate, stone, building tile, glazed tile, sheet rock, compo board, terrazzo, wood, metal, mastic, stucco, bakelite, glass, and rubber. Underwriters' approved for unlimited indoor and outdoor use.

How to Order



Select the proper size anchor and specify required length. Anchor should be as long as the threaded part of the screw.

No.	Anchor Lgth. In.	FOR SCREWS		Lgth. In.	Drill Hole In.	Std. Ctn.	Per 100
		Wood Screw Size No.	Lag Screw Size, In.				
6	3/4	5 or 6	..	1 or 1 1/4	1 1/4	100	\$1.60
8	1	5 or 6	..	1 1/2	1 1/4	100	1.75
	3/4	7 or 8	..	1 or 1 1/4	3/16	100	1.95
	1	7 or 8	..	1 1/2	3/16	100	2.20
10	1 1/2	7 or 8	..	2 or 2 1/2	3/16	100	2.65
	3/4	9 or 10	..	1 or 1 1/4	7/32	100	2.20
	1	9 or 10	..	1 1/2 or 1 3/4	7/32	100	2.50
	1 1/2	9 or 10	..	2 or 2 1/2	7/32	100	3.05
12	3/4	11 or 12	..	1 1/4	1/4	100	2.65
	1	11 or 12	..	1 1/2	1/4	100	3.00
	1 1/2	11 or 12	..	1 3/4 or 2	1/4	100	3.55
14	1	14	..	1 1/2 or 1 3/4	9/32	100	3.90
	1 1/2	14	..	2 or 2 1/2	9/32	100	4.20
16	2	14	..	3 or 3 1/2	9/32	100	4.90
	1	16	1/4	1 1/2	5/16	50	3.90
	1 1/2	16	1/4	2 or 2 1/2	5/16	50	4.85
20	2	16	1/4	3 or 3 1/2	5/16	50	5.80
	1	20	5/16	1 1/2	3/8	50	5.60
	1 1/2	20	5/16	2 or 2 1/2	3/8	50	7.00
24	2	20	5/16	3 or 3 1/2	3/8	50	8.40
	1 1/2	24	3/8	2 1/2 or 3	7/16	25	10.15
	2	24	3/8	3 1/4 or 4	7/16	25	12.70
	2 1/2	24	3/8	4 1/2 or 5	7/16	25	15.25
32	3	24	3/8	5 1/2 or 6	7/16	25	19.05
	2	32	7/16 or 1/2	3 1/2 or 4	9/16	25	16.95
	2 1/2	32	7/16 or 1/2	4 1/2 or 5	9/16	25	21.20
	3	32	7/16 or 1/2	5 1/2 or 6	9/16	25	24.40

Pull-Out Tests

Size Screw No.	Length Anchor Inches	TOTAL LOAD REQUIRED TO PULL EITHER SCREW OR STUD FROM CONCRETE, LB.	
		Max. Pull	Average of 4 Tests
20	1 1/2	2965	2194
16	1 1/2	2870	2455
14	1 1/2	2520	1731
12	1 1/2	1755	1525
10	1 1/2	1320	874

No. 400 Star Screin Lead Anchors

For use with wood screws. Requires a smaller installation hole than corresponding size screw. Holding power in masonry is higher in short length for No. 8 and 14 sizes; in soft masonry, long length is recommended. **When ordering**, specify screw size and length of anchor, or No.



No.	Without Screws per 100	Screw Size and Length of Anchor Inches	Fractional Screw Size, In.	O.D. and Drill Required Inches	Std. Pkg.	Shipping Wt. Lb. per 100	Ship. Wt. Lb. per 100
408	\$5.00	6-8 x 3/4	1/8-3/16	1/4	100	1000	1
409	5.60	6-8 x 1 1/2	1/8-3/16	1/4	100	500	2 1/4
412	5.60	10-12-14x1	3/16-1/4	5/16	100	500	2 1/2
413	8.00	10-12-14x1 1/2	3/16-1/4	5/16	100	500	3 1/2
417	6.25	16-18x1	5/16	3/8	100	500	3
418	9.00	16-18x1 1/2	5/16	3/8	25	250	5
422	10.00	20-22-24x1 3/4	3/8	7/16	25	250	6 1/2

Rawlplug Fiber Screw Anchors

For Use with Wood or Lag Screws

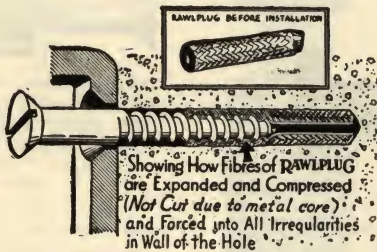
Holds screws fast. Works equally well in wood, glass, masonry, plaster, slate, rubber, marble, tile, brick, concrete, or metal.

Unaffected by moisture, temperature, insects, fungus, vibration or shock.

Has a high compression value. The hole, screw and Rawlplug are practically the same size, therefore the fibers must be compressed when screw enters Rawlplug.

Due to the metal core the threads of the screw do not cut the fibers of the plug, but instead thread the metal core, making it possible to unscrew and replace the screw and also further compress the fibers into an absolutely compact mass. With the Rawlplug the maximum amount of material is compressed into the smallest possible space.

The fiber construction of Rawlplug being flexible permits the plug to conform to any irregularities of the hole under compressive action of screw. Thus the entire length and



circumference of plug grips the full surface of hole. Because of this elastic compression, shock and vibration have no effect on the gripping power of Rawl-plugs.

Braided with a metal center, can be driven in tight hole, will not crush in tool kit.

Is impregnated 100 per cent against any form of deterioration.

The metal center serves as a guide and also acts as a lubricant for quick inser-

tion of screw. Small sizes can be cut with cutting pliers, larger sizes with hacksaw.

Rawlplugs for use with standard wood screws packed 100 in a box except Nos. 16 and 20 which are packed 50 in a box. Rawlplugs for use with lag screws packed 25 in a box. A standard package contains one dozen boxes of Rawlplugs of same size and length or one dozen M/T or R/T Rawldrills or 1/2 dozen holders of the same size.

For Use with Standard Wood Screws

RAWPLUG	FOR WOOD		Approx. Wt. Lb.	Per Std. Pkg.	Per 100	M/T or R/T		Drill- HOLDER		Twist Drill Per Size or In.
	LETH. No.	SCREW GAGE No.				LETH. In.	PER DOZ.	DIAM. In.	NO.	
6	5/8	5-6	1	1	\$2.70	6	\$11.50	5/32	14	\$24.00
6	3/4	5-6	1 1/4	1	2.80	6	11.50	5/32	14	24.00
6	1	5-6	1 1/2	1 1/2	3.00	6	11.50	5/32	14	24.00
8	5/8	7-8	1	1 1/2	3.10	8	11.50	11/64	14	24.00
8	3/4	7-8	1 1/4	1 1/2	3.20	8	11.50	11/64	14	24.00
8	1	7-8	1 1/2	2	3.40	8	11.50	11/64	14	24.00
8	1 1/2	7-8	2-2 1/2	2 1/2	3.80	8	11.50	11/64	14	24.00
10	3/4	9-10	1 1/4	1 3/4	3.40	10	11.50	3/16	14	24.00
10	1	9-10	1 1/2	2 1/2	3.80	10	11.50	3/16	14	24.00
10	1 1/4	9-10	1 3/4	2 3/4	4.20	10	11.50	3/16	14	24.00
10	1 1/2	9-10	2-2 1/2	3 1/4	4.60	10	11.50	3/16	14	24.00
12	3/4	11-12	1 1/4	2 1/2	4.20	12	11.50	1/4	14	24.00
12	1	11-12	1 1/2	3	4.60	12	11.50	1/4	14	24.00
12	1 1/4	11-12	1 3/4	3 1/4	5.00	12	11.50	1/4	14	24.00
12	1 1/2	11-12	2-2 1/2	4 1/2	5.40	12	11.50	1/4	14	24.00
14	1	14	1 1/2	4 1/2	5.40	14	12.50	9/32	14	24.00
14	1 1/4	14	1 3/4	5 1/2	6.00	14	12.50	9/32	14	24.00
14	1 1/2	14	2-2 1/2	6 1/2	6.60	14	12.50	9/32	14	24.00
14	2	14	3-3 1/2	8 1/4	7.80	14	12.50	9/32	14	24.00
16	1	16	1 1/2	2 3/4	6.10	16	13.60	5/16	20	30.00
16	1 1/2	16	2-2 1/2	4	7.60	16	13.60	5/16	20	30.00
16	2	16	3-3 1/2	5	9.10	16	13.60	5/16	20	30.00
20	1	20	1 1/2	3 3/4	9.00	20	15.70	3/8	20	30.00
20	1 1/2	20	2-2 1/2	5 1/2	11.00	20	15.70	3/8	20	30.00
20	2	20	3-3 1/2	6 1/2	13.00	20	15.70	3/8	20	30.00

For Use with Lag Screws

[illegible]

Rawlplug Contractors' Outfits

The ideal outfit for superintendents of office buildings, institutions, hotels, apartments; maintenance engineers in industrial plants; and all contractors.

Qty.	Description	Qty.	Description
100	No. 8x1-Inch Rawlplugs...	1	No. 12 Rawltwist Drill.....
100	No. 10x1-Inch Rawlplugs...	1	No. 14 Rawltwist Drill.....
100	No. 12x1½-In. Rawlplugs...	1	No. 8 M/T Rawldrill.....
100	No. 14x1½-In. Rawlplugs...	1	No. 10 M/T Rawldrill.....
50	No. 16x1½-In. Rawlplugs...	1	No. 12 M/T Rawldrill.....
50	No. 20x1½-In. Rawlplugs...	1	No. 14 M/T Rawldrill.....
1	No. 14 Rawl-Grip.....	1	No. 16 M/T Rawldrill.....
1	No. 20 Rawl-Grip.....	1	No. 20 M/T Rawldrill.....
1	No. 8 Rawltwist Drill.....	1	No. 14 Drillholder.....
1	No. 10 Rawltwist Drill.....	1	No. 20 Drillholder.....
1	Drill Ejector.....	..	Samples of 10-24 Rawls.....
1	Rawlplug Instruction Sheet.....	..	Samples of Rawl-Drives.....
1	Heavy Gage Steel Mechanics Tool Box.....	..	Samples of ¼-In. Hammer-Set Type 66.....
		..	Complete Rawl-Product Catalog.....
Complete Outfit.....			each \$40.00

Holding Power of Rawlplugs

Wood Screws

Rawl- plug No.	Size Hole In.	Screw Gage No.	Lgth. Screw Engaged Inches	POUNDS PULL	
				1:2:4 Concrete	Brick Masonry
12	$\frac{1}{4}$	12	$1\frac{1}{2}$	1525	660
14	$\frac{9}{32}$	14	$1\frac{1}{2}$	1590	900
16	$\frac{5}{16}$	16	$1\frac{1}{2}$	2150	1400
20	$\frac{3}{8}$	20	2	2830	1750

Lag Screws

Rawl- plug Size In.	Size Hole In.	Screw Size In.	Lgth. Screw Engaged Inches	POUNDS PULL	
				1:2:4 Concrete	Brick Masonry
3/8	7/16	3/8	2 1/2	3700	2980
7/16	1 1/2	7/16	2	6670	2970
1 1/2	5/8	1 1/2	3	8900	3900
5/8	3/4	5/8	3	12700	6250

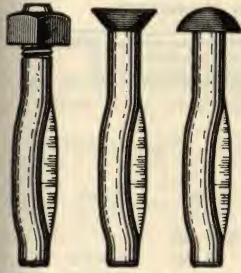
*Prices quoted upon request for any size and length not shown above.

†For $\frac{1}{4}$ -inch lag screw use No. 14 or No. 16 Rawlplug.

†For $\frac{5}{16}$ -inch lag screw use No. 20 Rawlplug.

§For $\frac{7}{16}$ -inch M/T and $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$ -inch R/T Rawldrills use No. 20 holder.

Rawl-Drive Expansion Bolts



For use in any hard materials. A cadmium-plated, self-contained combination expansion anchor in one piece. No separate screws or bolts are used. Made in 2 styles, headed (round or countersunk) and stud (with square nut). Hole is drilled exact size of bolt. It is driven in this hole with a hammer. Stud type also drives in like a nail.

Standard package—one box of the same size, length, and type.

Diam. Bolt & Drill In.	Lgth. Bolt In.	Headed Type per 100	Stud Type per 100	Use Rawl-Drill	No. in Box	Approx. Wt. Lb. per 100
3/16	1	\$8.00	.....	No. 10	100	1 3/4
	1 1/4	8.40	\$15.00	No. 10	100	2
	1 1/2	9.40	.....	No. 10	100	2
	2	11.40	.....	No. 10	100	2 1/4
1/4	2 1/2	13.40	.....	No. 10	100	2 1/4
	1 1/4	10.20	.....	No. 12	100	3
	1 1/2	11.20	18.00	No. 12	100	3 1/2
	2	13.00	20.00	No. 12	100	4
5/16	2 1/2	15.00	.....	No. 12	100	4 1/4
	3	17.00	.....	No. 12	100	4 1/2
	3 1/2	19.00	.....	No. 12	100	5
	1 1/2	*14.30	.....	No. 16	50	6
3/8	2	16.35	24.00	No. 16	50	7
	2 1/2	18.20	26.00	No. 16	50	8
	3	19.70	28.00	No. 16	50	9
	2	18.60	.....	No. 20	25	10
1/2	2 1/2	22.00	32.50	No. 20	25	12
	3	25.50	35.50	No. 20	25	13
	3 1/2	29.00	38.50	No. 20	25	15
	3	44.00	.....	1/2"	25	25
1/2	3 1/2	48.00	60.00	1/2"	25	28
	4	52.00	65.00	1/2"	25	30

*Without countersunk head. †Countersunk head only.

No. 175 Paine Special Toggle Bolts



Type A, B and C

Type J

Especially designed for hanging fluorescent fixtures. Extra wide wing spread. Made of steel, zinc plated.

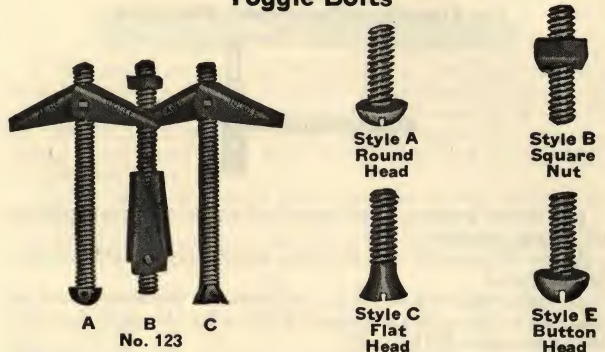
Bolt Diameter No. or Inches	Overall Length Inches	Wire Gauge	Threads Per Inch	Drill Hole Inch	Wing Spread Inches	Weight Pound per 100	Per 100
10-24	3	10-24	9/16	25/8	3 3/4	\$18.00	
10-24	4	10-24	9/16	25/8	4 1/2	19.00	
10-24	5	10-24	9/16	25/8	5 1/8	20.00	
10-24	6	10-24	9/16	25/8	5 3/4	21.00	
1/4-20	3	1/4-20	3/4	4	9 3/4	22.00	
1/4-20	4	1/4-20	3/4	4	10 3/4	23.00	
1/4-20	5	1/4-20	3/4	4	12	24.00	
1/4-20	6	1/4-20	3/4	4	13	25.00	

Has nut and washer.

Type J

Bolt Diameter No. or Inches	Overall Length Inches	Thread Length Inches	Drill Hole Inch	Eye Diameter Inch	Eye Opening Inch	Weight Pound per 100	Per 100
10-24	4	3	9/16	5/16	3/16	\$23.30	
10-24	5	4	9/16	5/16	3/16	24.15	
10-24	6	5	9/16	5/16	3/16	25.00	
1/4-20	4	2 3/4	3/4	1/2	3/16	28.60	
1/4-20	5	3 3/4	3/4	1/2	3/16	30.30	
1/4-20	6	4 3/4	3/4	1/2	3/16	32.00	

No. 123 Standard Paine Spring Wing Toggle Bolts



Works instantly in any position in any hollow material including gypsum. Regularly furnished with full thread up to six inches. All bolts threaded to American National Standard Specifications.

One toggle bolt clamp furnished with every box of toggle bolts. The 1/2-inch size is packed 25 in a carton, all other sizes packed 50 in a carton.

Bolt Diam. Threads per In. and Lgth. In.	All Steel per 100	Drill of Hole In.	Spread of Wings In.	Wt. Lb. per 1000	Bolt Diam. Threads per In. and Lgth. In.	All Steel per 100	Drill of Hole In.	Spread of Wings In.	Wt. Lb. per 1000
* 6-32x1 3/4	\$6.60	7/16	1 5/16	14	1/4-20x2 1/2	\$10.50	3/4	2	63
x2	8.00	7/16	1 5/16	15	x3	10.50	3/4	2	68
x3	9.00	7/16	1 5/16	19	x3 1/2	11.00	3/4	2	73
x3 1/2	10.00	7/16	1 5/16	20	x4	11.00	3/4	2	75
x4	10.00	7/16	1 5/16	21	x5	14.00	3/4	2	88
x5	12.00	7/16	1 5/16	25	x6	15.50	3/4	2	99
x6	12.50	7/16	1 5/16	29	x8	20.00	3/4	2	118
† 8-32x2	8.50	1/2	1 7/16	23	x10	25.00	3/4	2	125
x3	9.50	1/2	1 7/16	28	5/16-18x3	16.00	7/8	2 3/8	100
x4	10.00	1/2	1 7/16	31	x4	17.00	7/8	2 3/8	118
x5	12.00	1/2	1 7/16	33	x5	21.50	7/8	2 3/8	135
x6	12.50	1/2	1 7/16	35	x6	23.00	7/8	2 3/8	155
† 10-24x2	8.50	9/16	1 15/16	33	3/8-16x3	21.00	1	2 3/4	160
x2 1/2	9.50	9/16	1 15/16	36	x4	23.00	1	2 3/4	180
x3	9.50	9/16	1 15/16	38	x5	28.50	1	2 3/4	205
x3 1/2	10.00	9/16	1 15/16	42	x6	30.00	1	2 3/4	231
x4	10.00	9/16	1 15/16	45					
x5	12.00	9/16	1 15/16	51	1/2-13x4	40.50	1 5/16	4 1/2	435
x6	12.50	9/16	1 15/16	58	x5	52.00	1 5/16	4 1/2	460
1/4-20x2	9.00	3/4	2	58	x6	59.00	1 5/16	4 1/2	500

*Also described as 1/8-inch. †Also described as 3/8-inch. ‡Also described as 1/2-inch.

Prices for brass toggles on application.

Toggle Bolt Clamps



A device that holds toggle tight against side of wall floor or ceiling so bolt can be tightened with screw-driver.

Paine Spring Wing Riveted-On Head Toggle Bolts



Made in sizes 1/16 and 3/8-inch only.

The riveted-on head toggle is intended for heavy duty in such materials as tile, steel ceilings, metal lath, etc.

Lgth. In.	Drill Hole In.	Spread of Wings In.	1/16-Inch Diam. Bolt Per 100	1/8-Inch Diam. Bolt Wt. Lb. per 100	3/8-Inch Diam. Bolt Per 100	1/2-Inch Diam. Bolt Wt. Lb. per 100
3	3/4	2 1/4	\$19.00	10	\$19.00	12 1/2
4	3/4	2 1/4	20.00	11 1/2	20.00	15
5	3/4	2 1/4	25.50	13 1/2	25.50	17 1/2
6	3/4	2 1/4	27.50	15 1/2	27.00	20

Rawl-Chucks

For Electric or Pneumatic Hammers



For severe service in all standard electric and pneumatic chipping hammers.

Made of chrome nickel steel accurately machined and heat treated.

In order that the chuck fit the hammer the shank or stem must be made to the dimensions given by the manufacturer of the hammer being used.

Shanks are available in two types, straight and differential but each type has many different dimensions. Furnished in Nos. 14, 20 or $\frac{5}{8}$ taper.

No. 14 taper is used on the following drills: No. 6 ($\frac{5}{32}$ -inch), No. 8 ($\frac{1}{16}$ -inch), No. 10 ($\frac{3}{16}$ -inch), No. 12 ($\frac{1}{4}$ -inch), No. 14 ($\frac{5}{16}$ -inch).

No. 20 taper is used on the following drills: No. 16 ($\frac{3}{16}$ -inch), No. 20 ($\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{9}{16}$, $\frac{5}{8}$, $\frac{11}{16}$, $\frac{3}{4}$, $\frac{13}{16}$ -inch).

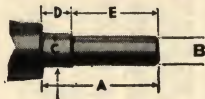
No. $\frac{5}{8}$ large taper should be used when drilling with the following sizes of pneumatic hammers: $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{9}{16}$, $\frac{5}{8}$, $\frac{11}{16}$, $\frac{3}{4}$, $\frac{13}{16}$ inch. The $\frac{5}{8}$ or large taper is used on all drills $\frac{1}{8}$ -inch and larger.

In ordering specify make of hammer and size, and if pneumatic, whether round or hexagon barrel, and whether for No. 14, No. 20, or No. $\frac{5}{8}$ drill taper.

Electric Hammer Type, Complete with Drift Pin each **\$8.00**
Pneumatic Hammer Type, Complete with Shank and Drift Pin.....each **8.00**
Special Tool Steel Drift Pin for Chucks (5 Inches Long).....each **.90**
Extra Shank Pins for Pneumatic Type.....each **1.90**

Rawl-Chuck Shank Dimensions

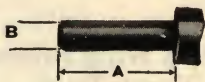
Differential Shank



Dimensions, Inches

Type of Hammer	A	B	C	D	E
Black & Decker Nos. 4, 6, 34, 36	2 $\frac{1}{2}$	.580	.680	$\frac{5}{8}$	1 $\frac{3}{4}$
Van Dorn Nos. 4, 6, 34, 36.....	2 $\frac{1}{2}$	.580	.680	$\frac{5}{8}$	1 $\frac{3}{8}$
Milwaukee.....	1 $\frac{1}{2}$	.500	$\frac{9}{16}$	$\frac{3}{8}$	1 $\frac{1}{8}$
Hexagon Barrel, Pneumatic, Chipping Hammer.....	2 $\frac{3}{8}$	.580	.680	$\frac{5}{8}$	1 $\frac{3}{4}$

Straight Shank

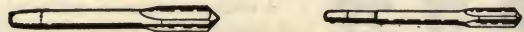


Dimensions, Inches

Type of Hammer	A	B
Black & Decker No. 2, 30-32.....	2 $\frac{1}{4}$	.401
Van Dorn No. 2, 30-32.....	2 $\frac{1}{4}$	.401
Chicago Pneumatic Little Giant Electric.....	2 $\frac{3}{8}$	.680
Pneumatic Stone Chipper.....	1 $\frac{3}{4}$	.497
Speedway, U2.....	1 $\frac{5}{8}$	.500
Speedway, U6 and No. 10.....	1 $\frac{3}{4}$	.625
Stanley (Ajax) Nos. 310 and 310A.....	1 $\frac{7}{8}$	.468
Stanley (Ajax) Nos. 320 and 320A.....	2 $\frac{1}{2}$	.625
Syntron, MK, 8.....	2	.494
Syntron, AK, 16, C-R.....	2 $\frac{3}{4}$	.682
Thor Electric.....	1 $\frac{3}{4}$	.497
Millers Falls, 816-1058.....	2	.494
Millers Falls, 1716-2316A-3216A.....	2 $\frac{3}{4}$	.682
Wodack.....	1 $\frac{1}{4}$	.495
Pneumatic Chipping Hammers, Round Barrel	2 $\frac{3}{8}$	.680

Taper Shank Rawldrills

Symbol T/S—For Power Hammers



Can be used in all electric and pneumatic chipping hammers with proper Rawlchuck. No. 20 taper drills used with No. 20 tool holders for hand use.

Diam. In.	OVERALL LENGTH		Rawl-Drill Taper No.	OVERALL LENGTH		Rawl-Drill Taper No.
	6-Inch Per Doz.	12-Inch Per Doz.		6-Inch Per Doz.	12-Inch Per Doz.	
$\frac{3}{8}$	\$15.00	.....	20	\$22.80	.....	$\frac{5}{8}$
$\frac{7}{16}$	15.60	\$19.80	20	23.40	\$30.00	$\frac{5}{8}$
$\frac{1}{2}$	17.40	19.80	20	26.40	30.00	$\frac{5}{8}$
$\frac{9}{16}$	19.80	.....	20	30.00	.....	$\frac{5}{8}$
$\frac{5}{8}$	19.80	24.00	20	30.00	36.00	$\frac{5}{8}$
$\frac{11}{16}$	22.80	.....	20	30.00	.....	$\frac{5}{8}$
$\frac{3}{4}$	22.80	26.40	20	30.00	36.00	$\frac{5}{8}$
$\frac{13}{16}$	25.20	.....	20	30.00	.....	$\frac{5}{8}$
$\frac{7}{8}$	25.20	30.00	20	30.00	36.00	$\frac{5}{8}$
1	.....	.....	20	30.00	36.00	$\frac{5}{8}$
$1\frac{1}{8}$	.....	.....	20	33.60	37.80	$\frac{5}{8}$
$1\frac{1}{4}$	.....	.....	20	44.40	49.20	$\frac{5}{8}$
$1\frac{3}{8}$	.....	.....	20	.....	52.80	$\frac{5}{8}$
$1\frac{1}{2}$	.....	.....	20	.....	60.00	$\frac{5}{8}$
$1\frac{5}{8}$	.....	.....	20	.....	72.00	$\frac{5}{8}$

Rawldrills

Machined Type (M/T) or Rawl Twist (R/T)
For Hand and Power Drilling



Straight Flute
Machined Type (M/T)

Twist Flute
Rawl-Twist (R/T)



Drill Holder

Machined to size from solid bars of high grade tool steel. Made in sizes for all Rawlplugs and Rawldrives.

Used in a toolholder when drilling by hand and in Rawlchuck when drilling by power hammer. Made to exact diameters. Can be resharpened on any grinding wheel.

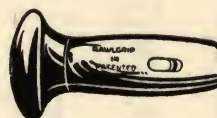
Machined type, symbol M/T, has straight flute. Rawl-twist, symbol R/T, is percussion drill with twist flute.

Drills are packed 1 dozen same size in standard package. Holders, $\frac{1}{2}$ dozen same size in standard package.

Size No. or In.	Per Dozen	OVERALL LENGTH INCHES		DRILLING DEPTH INCHES		Diam. Inches	DRILL HOLDER	
		M/T	R/T	M/T	R/T		No.	Per Doz.
6	\$11.50	2 $\frac{3}{4}$	2 $\frac{3}{4}$	1	1	$\frac{5}{32}$	14	\$24.00
8	11.50	3 $\frac{1}{4}$	3 $\frac{1}{4}$	1 $\frac{5}{8}$	1 $\frac{5}{8}$	$\frac{11}{64}$	14	24.00
10	11.50	3 $\frac{1}{4}$	3 $\frac{1}{4}$	1 $\frac{5}{8}$	1 $\frac{5}{8}$	$\frac{3}{16}$	14	24.00
12	11.50	3 $\frac{3}{4}$	3 $\frac{3}{4}$	2	2	$\frac{1}{4}$	14	24.00
14	12.50	3 $\frac{3}{4}$	3 $\frac{3}{4}$	2 $\frac{1}{4}$	2 $\frac{1}{4}$	$\frac{9}{32}$	14	24.00
16	13.60	4 $\frac{1}{4}$	4 $\frac{1}{4}$	2 $\frac{3}{8}$	2 $\frac{3}{8}$	$\frac{5}{16}$	20	30.00
20	15.70	4 $\frac{1}{4}$	5	2 $\frac{3}{4}$	3 $\frac{1}{8}$	$\frac{3}{8}$	20	30.00
$7\frac{1}{16}$	31.00	5 $\frac{1}{8}$	5 $\frac{1}{8}$	3 $\frac{1}{8}$	3 $\frac{1}{8}$	$\frac{7}{16}$	20	30.00
* 1 $\frac{1}{2}$	34.00	.....	5 $\frac{7}{16}$	.....	3 $\frac{5}{8}$	$\frac{1}{2}$	20	30.00
* $\frac{5}{8}$	45.00	.....	6	.....	4	$\frac{5}{8}$	20	30.00
* $\frac{3}{4}$	60.00	.....	6	.....	4	$\frac{3}{4}$	20	30.00

*Made in twist type only. Drill ejectors \$6.00 per dozen.

Rawl-Grips



Made of hard live rubber in two sizes to fit No. 14 and No. 20 Rawl-drill holders.

Fits over holder, providing a firm, comfortable grip and protects the hand from injury.

Size No. 14 or No. 20.....each **\$2.25**

No. 1400 Star Rotrtwist Masonry Drills

Carbide Tipped—Spiral Fluted



Penetrates freely and easily, giving clean, accurate holes in hardest masonry. For use with all common types of rotary electric drills and hand braces. Do not use in hammer type percussion drills.

Individually packaged, complete with operating instructions.

No.	Each	—DIAM., IN.—	Lgth.	Shank	Ship.
		*Nom.	Over- all In.	INCHES Diam. Lgth.	Wt. Lb. per Doz.
1405	\$1.80	1/8	.130	2 1/2	1/4
1410	1.80	3/16	.198	3	1/4
1415	1.80	1/4	.260	4	1/2
1420	1.95	5/16	.328	4	3/4
1425	2.15	3/8	.390	4	1
1430	2.40	7/16	.458	6	2
1435	2.70	1/2	.525	6	2 3/4
1440	3.00	9/16	.587	6	3 1/4
1445	3.30	5/8	.650	6	4 1/4
1450	3.75	11/16	.713	6	4 1/2
1455	4.20	3/4	.775	6	5 1/2
1460	5.10	7/8	.905	6	7
1465	7.20	1	1.030	6	9
1470	8.70	1 1/8	1.160	6	10 1/4
1475	10.50	1 1/4	1.285	10	21
1480	12.00	1 3/8	1.410	10	25
1485	12.90	1 1/2	1.535	10	30 1/2

*Sufficient oversize allowances provided for proper hole size required for installation of expansion shields, anchors and toggle bolts.

Above sizes except 1/8, 3/16 and 1/4-inch sizes can be furnished in 12 and 18-inch lengths. Prices on application.

Arro 4-Point Star or Stone Drills

High Carbon Alloy Tool Steel—Oil Tempered



Black enamel finish.

Cutting Diam. In.	PER DOZEN				Std. Pkg. Dox.	Shipping Wt., Lb. per Doz.
	LENGTH, INCHES					
	8	12	18	24		
3/16	\$8.25	\$8.50	.....	.....	1 1/2	1 1/4
1/4	8.25	8.50	\$11.00	\$13.50	1	2
5/16	8.25	8.50	11.00	13.50	1	2 1/2
3/8	8.25	8.50	11.00	13.50	1	3 1/2
7/16	8.70	9.00	11.50	14.00	1 1/2	4 1/2
1/2	9.65	10.00	12.50	15.00	1	5
9/16	11.65	12.00	15.00	17.50	1 1/2	6
5/8	11.65	12.00	15.00	17.50	1 1/2	8 1/2
11/16	13.70	14.00	17.50	20.00	1 1/2	8 3/4
3/4	13.70	14.00	17.50	20.00	1 1/2	11
13/16	15.30	16.00	20.00	22.50	1 1/2	10 1/4
7/8	15.30	16.00	20.00	22.50	1 1/2	13
15/16	.....	18.00	22.50	25.00	1 1/2	15 1/2
1	17.00	18.00	22.50	25.00	1 1/2	15 1/2
1 1/8	.....	24.00	28.00	32.00	1 1/2	18 1/4
1 1/4	.....	30.00	35.00	40.00	1 1/4	22 1/4
1 3/8	.....	40.00	45.00	50.00	1 1/4	31
1 1/2	.....	50.00	56.00	62.00	Bulk	39
1 5/8	.....	60.00	66.00	72.00	Bulk	40
1 3/4	.....	75.00	81.00	87.00	Bulk	40
1 7/8	.....	90.00	97.00	104.00	Bulk	40
2	.....	105.00	112.00	120.00	Bulk	48
2 1/4	.....	135.00	145.00	165.00	Bulk	42
2 1/2	.....	165.00	175.00	195.00	Bulk	45

No. 4200 Star Hamrtwist Masonry, Percussion Drill Points



A fast and easy cutting tool giving a round and uniform hole in concrete, brick, or stone. Drill does not lose its diameter as other types of masonry drills inasmuch as there is no taper at the point. It can be resharpened on any grinding wheel. This point has a much longer life than it is possible to get from a four point drill.

Length given is overall including the taper. Deduct approximately one inch for actual drilling depth.

Special long lengths furnished when specified only.

Standard package 12 of a size.

No.	Per Dox.	Diam. In.	Lgth. In.	Ship. Wt., Lb. per Doz.	No.	Per Dox.	Diam. In.	Lgth. In.	Ship. Wt., Lb. per Doz.
4210	\$10.80	3/16	2 5/8	1 1/2	4225	\$14.80	3/8	5	1 1/2
4211	10.80	7/32	3 1/8	1 1/2	4230	18.80	1/2	5 1/4	1 3/4
4215	10.80	1/4	3 1/4	1 1/2	4235	22.80	1/2	5 1/2	2 1/4
4217	11.80	9/32	3 5/8	3/4	4240	26.80	9/16	5 1/2	2
4220	12.80	5/16	4 1/4	1	4245	28.80	5/8	6	2 1/2
4222	13.80	11/32	4 3/8	1	4255	34.80	3/4	6	4
Special Long Lengths									
4216	\$13.60	1/4	6	1	4223	\$20.40	1 1/2	6	1 3/4
4218	15.00	9/32	6	1 1/4	4238	78.00	1 1/2	14	4 1/4
4221	19.20	5/16	6	1 1/2	.....	.....	.....	.....	.....

Star Drill Holders

No. 5200 Rubber Grip Holders



Forged from a solid bar of tool steel, properly tempered. No. 5200, with Knockout Pin; Ship. Wt., 12 Lb. per doz. \$48.00

No. 5400 Plain Holders



Forged from a solid bar of tool steel, properly tempered. No. 5400, with Knockout Pin; Shipping Weight, 9 1/2 Pounds..... per dozen \$24.00

No. 5900 Knockout Pins

No. 5900 Knockout Pin is furnished with each holder, no charge. Weight, 1/2 pound per dozen. No. 5900, Extra Pins..... per dozen \$4.50

New England Thunder-Twist Electric Hammer Bits

Carbide Tipped

For Hard Concrete and Granite



Shank is a special hardened alloy steel which will give maximum resistance to shock.

Bit Diam. In.	Each	Standard Length		Qty.	Ship. Wt. Lb.	Extra Lengths	
		Over- all Lgth. In.	Taper No.			12 Each	18 Each
3/16	\$5.39	3	2	12	12 1/2	.....	.....
1/4	5.39	4	2	12	13	.....	.....
5/16	5.89	4	2	12	17 1/2	.....	.....
7/16	6.44	4	2	12	20	.....	.....
1/2	7.65	6	2	12	25 1/2	.....	.....
9/16	8.75	6	3	6	26 1/2	\$10.95	\$12.49
5/8	9.35	6	3	6	29	11.65	13.25
3/4	9.74	6	3	6	29 1/2	12.16	13.92
7/8	14.03	6	3	3	22	17.55	20.02
1	15.95	6	3	3	24	19.91	22.77
1 1/8	18.48	6	3	3	26	23.10	26.40
1 1/4	19.80	6	3	1	8	24.75	28.82
	23.10	6	3	1	10	28.82	33.50

New England Masonry Drill Bits Carbide Tipped

Cyclo-Twist Rotary Drill Bits

For one-man drilling in soft and medium masonry, using an electric rotary drill, drill press or hand brace. Drills clean, uniform holes.

Diameter of **carbide tip** same as full diameter of body for maximum strength in all sizes.

Deep spiral flutes, one for each cutting edge, running full length of body; removes pulverized dust.

Drills holes $\frac{3}{16}$ to $1\frac{1}{2}$ -inch diameter up to 36 inches deep. Shank lengths available, 3, 4, 6, 12, 20, 28 and 36 inches.



Cyclo-Core Rotary Drill Bits

For two-man drilling in hard concrete using rotary-type drill applying pressure. Removable Cyclo-Core for precision locating and starting of holes eliminates need for high starting pressures; stops walking, marring and vibration.

Deep spiral flutes run full length of shell; positively remove pulverized dust which permits constant drilling rate, even in deep holes, faster and freer cutting without stalling.

Drill holes $\frac{3}{4}$ to 6-inch diameter up to 18 inches deep; available in 8, 10 and 12-inch body lengths.

Thunder-Twist Hammer Bits

For one-man drilling in hard concrete, very hard masonry or granite, using electric or pneumatic hammer. Spiral vanes; straight flutes with no carbide hang-over at tip of bit. Eliminate packing of dust and binding of bit in green concrete drilling; permits increased drilling rate in very hard concrete or granite.

Drills holes $\frac{3}{16}$ to $1\frac{1}{4}$ -inch diameter up to 24 inches deep. Shank lengths available, 3, 4, 6, 12, 18 and 24 inches.



Thunder-Core Hammer Bits

For one-man drilling in hard concrete, very hard masonry or granite, using electric or pneumatic hammer. Deep spiral flutes, one for each cutting tip, positively remove dust.

Removable Thunder-Center for precision locating and starting of holes.

Long length shanks with special tapers available upon request.

Drills holes $1\frac{1}{8}$ to 6-inch diameter; Body length, 7 inches; 3, 6, 12-inch shank lengths.

Masonry Drill Bit Guide Soft or Medium Masonry

In asbestos, asphalt, pressed or common brick, carbon, cement, ceramics, cinder block; concrete with cinder, slag or similar aggregate; formica, limestone, marble, micarta, plaster, plastics, slate, terrazo, soft tile or wallboard:

$\frac{3}{16}$ to $1\frac{1}{16}$ -inch hole diameters—use only Cyclo-Twist rotary drill bit in a light or medium duty drill press or hand brace; $\frac{3}{4}$ to $1\frac{1}{2}$ -inch holes—use Cyclo-Twist or Cyclo-Core in a medium duty electric rotary drill; $1\frac{5}{8}$ to 6-inch holes: use only Cyclo-Core rotary drill bit in a medium or heavy duty, slow speed rotary drill, applying pressure, with removable Cyclo-Core for precision locating and starting of holes.

Hard Masonry

In hard brick; green or cured concrete with bluestone, granite, hard trap rock, pebble or similar aggregate; hard limestone, sandstone, rock, or glazed vitreous tile:

$\frac{3}{16}$ to $1\frac{1}{16}$ -inch hole diameters—use only Thunder-Twist hammer bits in electric or pneumatic hammer; $\frac{3}{4}$ to 1-inch holes—use either Thunder Twist in hammer or Cyclo-Core in medium duty electric rotary drill; $1\frac{1}{8}$ to 6-inch holes—use either Cyclo-Core in rotary drill bit in heavy duty, slow speed rotary drill, or Thunder-Core hammer bit in electric or pneumatic hammer.

Extra Hard Masonry

When drilling in fieldstone and granite: $\frac{3}{16}$ to 1-inch hole diameters—use only Thunder-Twist hammer bit in electric or pneumatic hammer; $1\frac{1}{8}$ to 6-inch holes—use only Thunder Core hammer bit in electric or pneumatic hammer, with removable Thunder-Center for precision locating and starting of holes.

New England Cyclo-Twist Masonry Drills Carbide Tipped



For drilling general masonry material. Used in rotary drills, drill presses and hand braces.

Steel body has same diameter as the carbide, which means maximum carbide support and maximum drill strength.

Double spiral channels. As the drill rotates each cutting edge forces dust or cuttings into its own built-in exit which conveys them out of the hole.

No cleaning of hole; no stalling; no slowdown. Uniform drilling rate.

*Nom. Diam. Inches	Std. Lgth. Each	1-Ft. Each	Extra Lengths 1½-Ft. Each	2½-Ft. Each	4-Ft. Each	For Over-Size Chuck In.	Min. Actual Drill Diam. In.	Std. Pkg.
$\frac{3}{16}$	\$1.80	.....	.....	.....	.....	$\frac{1}{4}$	3	.197 12
$\frac{1}{4}$	1.80	.....	.....	.....	.....	$\frac{1}{4}$	4	.260 12
$\frac{5}{16}$	1.95	\$3.05	\$4.15	.....	.....	$\frac{1}{4}$	4	.327 12
$\frac{3}{8}$	2.15	3.88	5.60	\$6.70	.....	$\frac{1}{4}$	4	.390 12
$\frac{7}{16}$	2.40	4.20	6.00	7.25	.....	$\frac{1}{2}$	6	.457 12
$1\frac{1}{2}$	2.70	4.60	6.50	7.95	\$8.95	$\frac{1}{2}$	6	.525 12
$\frac{9}{16}$	3.00	4.85	6.70	8.20	9.20	$\frac{1}{2}$	6	.587 6
$\frac{5}{8}$	3.30	5.40	7.50	9.00	10.00	$\frac{1}{2}$	6	.650 6
$1\frac{1}{16}$	3.75	6.00	8.25	9.75	10.75	$\frac{1}{2}$	6	.712 6
$\frac{3}{4}$	4.20	6.60	9.00	10.50	11.50	$\frac{1}{2}$	6	.775 6
$\frac{7}{8}$	5.10	7.80	10.50	12.00	13.00	$\frac{1}{2}$	6	.905 6
1	7.20	10.60	24.00	15.50	16.50	$\frac{1}{2}$	6	1.030 6
$1\frac{1}{8}$	8.70	12.60	16.50	19.75	22.20	$\frac{1}{2}$	6	1.160 1
$1\frac{1}{4}$	10.50	.....	19.50	23.40	26.15	$\frac{1}{2}$	10	1.285 1
$1\frac{1}{2}$	12.90	.....	23.50	28.05	31.60	$\frac{1}{2}$	10	1.535 1

*Enough oversize allowances provided for proper hole size required for expansion shields, anchors and toggle bolts.

†Available for $\frac{1}{4}$ -inch chuck on order.

No. 584 Hargrave Bull Points Alloy Steel



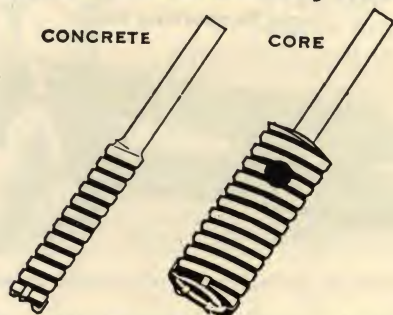
Size In.	Per Dozen	Size In.	Per Dozen	Size In.	Per Dozen	Size In.	Per Dozen	Size In.	Per Dozen
$\frac{3}{4} \times 9$	\$11.26	1×12	\$19.28	1×18	\$25.00	1×24	\$32.30	$1\frac{1}{2} \times 24$	\$78.14
$\frac{3}{4} \times 12$	11.98	1×15	22.50	$1\frac{1}{8} \times 18$	33.86	$1\frac{1}{8} \times 24$	41.68	$1\frac{1}{4} \times 36$	63.04
$\frac{7}{8} \times 12$	16.14	$\frac{7}{8} \times 18$	19.80	$1\frac{1}{4} \times 18$	37.52	$1\frac{1}{4} \times 24$	45.84	$1\frac{1}{2} \times 36$	103.68

Vulcan Standard Moil Points



No.	Each	Size Hex. Steel Inches	Size and Length of Hex. Shank Inches	Standard Lgth. under Collar Inches	Weight Pounds Each
1010	$\frac{7}{8}$	$\frac{7}{8} \times 3\frac{1}{4}$	12	2 $\frac{3}{4}$
1011	$\frac{7}{8}$	$\frac{7}{8} \times 3\frac{1}{4}$	14	3 $\frac{1}{4}$
1012	$\frac{7}{8}$	$\frac{7}{8} \times 3\frac{1}{4}$	18	4
1013	1	$1 \times 4\frac{1}{4}$	14	4 $\frac{1}{2}$
1014	1	$1 \times 4\frac{1}{4}$	18	5 $\frac{1}{2}$
1015	1	$1 \times 4\frac{1}{4}$	24	6 $\frac{3}{4}$
1016	1	1×6	14	4 $\frac{3}{4}$
1017	1	1×6	18	5 $\frac{3}{4}$
1018	1	1×6	24	7 $\frac{1}{4}$
1019	$1\frac{1}{8}$	$1\frac{1}{8} \times 6$	14	6
1020	$1\frac{1}{8}$	$1\frac{1}{8} \times 6$	18	7 $\frac{1}{2}$
1021	$1\frac{1}{8}$	$1\frac{1}{8} \times 6$	24	9
1022	$1\frac{1}{8}$	$1\frac{1}{8} \times 6$	30	11
1023	$1\frac{1}{4}$	$1\frac{1}{4} \times 6$	14	7 $\frac{1}{2}$
1024	$1\frac{1}{4}$	$1\frac{1}{4} \times 6$	18	9
1025	$1\frac{1}{4}$	$1\frac{1}{4} \times 6$	24	11 $\frac{1}{2}$
1026	$1\frac{1}{4}$	$1\frac{1}{4} \times 6$	30	13 $\frac{3}{4}$

Termite Concrete Rotary Drills



For drilling concrete and brick, also core drilling. Bores fast, clean and true. Patented action, does not cut, but pulverizes. Holds gage for long life.

Cutters and drill are same diameter; has no extended cutters to allow drill to crawl and cause an inaccurate irregular hole. Does not bind or stick. Quiet operating.

Worm feature pulls cuttings and dust up and out of hole to eliminate overheating and excessive wear.

Actual diameter of hole that any given size Termite will bore is the diameter of the drill plus $\frac{1}{32}$ inch.

Use with standard portable electric drills or air motors.

Concrete Termite Standard Lengths

No.	Each	Drill Diam. In.	all Lgth. In.	Shank Diam. In.
1-R	\$2.50	3	$\frac{3}{16}$	
2-R	2.50	3	$\frac{3}{16}$	
3-A	2.50	$\frac{3}{16}$	3	$\frac{3}{16}$
4	4.60	$\frac{1}{4}$	5	$\frac{1}{4}$
4-R	4.90	$\frac{9}{32}$	5	$\frac{1}{4}$
5	5.20	$\frac{5}{16}$	5	$\frac{1}{4}$
6	6.00	$\frac{3}{8}$	5	$\frac{1}{4}$
7	7.50	$\frac{7}{16}$	5	$\frac{1}{2}$
8	8.90	$\frac{1}{2}$	8	$\frac{1}{2}$
9	10.50	$\frac{9}{16}$	8	$\frac{1}{2}$
10	12.00	$\frac{5}{8}$	8	$\frac{1}{2}$
11	13.50	$\frac{11}{16}$	8	$\frac{1}{2}$
12 Core	15.00	$\frac{3}{4}$	8	$\frac{1}{2}$
13	16.00	$\frac{13}{16}$	8	$\frac{1}{2}$

Special Lengths

Approx. 50 Per Cent Worm
For Drilling Deep Holes

Drill Diam. In.	12	18	24	36
Each	Each	Each	Each	Each
$\frac{1}{4}$	\$6.25	\$7.75	\$8.25	
$\frac{3}{8}$	8.50	8.75	9.00	
$\frac{1}{2}$	11.50	11.75	12.00	\$13.00
$\frac{5}{8}$	13.50	13.75	14.00	15.25
$\frac{3}{4}$	16.50	16.80	17.20	18.45

Core Termite diameters not listed will be made to specifications; prices upon application.

Core Termite Standard Lengths

No.	Each	Drill Diam. In.	all Lgth. In.	Shank Diam. In.
14C	\$17.00	$\frac{7}{8}$	$\frac{9}{16}$	$\frac{1}{2}$
15C	17.50	$\frac{15}{16}$	$\frac{9}{16}$	$\frac{1}{2}$
16C	18.00	1	$\frac{9}{16}$	$\frac{1}{2}$
17C	18.50	$\frac{11}{16}$	$\frac{9}{16}$	$\frac{1}{2}$
18C	19.00	$\frac{11}{16}$	$\frac{9}{16}$	$\frac{1}{2}$
19C	19.50	$\frac{13}{16}$	$\frac{9}{16}$	$\frac{1}{2}$
20C	20.00	$\frac{11}{4}$	$\frac{9}{16}$	$\frac{1}{2}$
21C	21.20	$\frac{15}{16}$	$\frac{9}{16}$	$\frac{1}{2}$
22C	22.40	$\frac{13}{8}$	$\frac{9}{16}$	$\frac{1}{2}$
23C	23.60	$\frac{17}{16}$	$\frac{9}{16}$	$\frac{1}{2}$
24C	24.80	$\frac{11}{2}$	$\frac{9}{16}$	$\frac{1}{2}$
25C	26.00	$\frac{15}{8}$	$\frac{9}{16}$	$\frac{1}{2}$
26C	27.20	$\frac{13}{4}$	$\frac{9}{16}$	$\frac{1}{2}$
27C	28.40	$\frac{17}{8}$	$\frac{9}{16}$	$\frac{1}{2}$
28C	29.60	2	$\frac{9}{16}$	$\frac{3}{4}$
29C	30.80	$\frac{21}{4}$	$\frac{9}{16}$	$\frac{3}{4}$
37C	31.80	$\frac{23}{8}$	$\frac{9}{16}$	$\frac{3}{4}$
30C	32.80	$\frac{21}{2}$	$\frac{9}{16}$	$\frac{3}{4}$
31C	39.00	$\frac{23}{4}$	$\frac{9}{16}$	$\frac{3}{4}$
38C	42.10	$\frac{27}{8}$	$\frac{9}{16}$	$\frac{3}{4}$
32C	45.20	3	$\frac{9}{16}$	1
33C	51.40	$\frac{31}{4}$	$\frac{9}{16}$	1
40C	54.50	$\frac{35}{8}$	$\frac{9}{16}$	1
34C	57.60	$\frac{31}{2}$	$\frac{9}{16}$	1
35C	63.80	$\frac{33}{4}$	$\frac{9}{16}$	1
36C	70.00	4	$\frac{9}{16}$	1
39C	77.00	$\frac{41}{4}$	$\frac{9}{16}$	1
41C	86.70	$\frac{41}{2}$	$\frac{9}{16}$	1
42C	100.00	5	$\frac{9}{16}$	1

Vulcan Asphalt Cutters



Cuts into any road surfacing material, even concrete.

No.	943	1044	1045	1046
Each				
Hexagon Shank	1x4 $\frac{1}{4}$	1x6	1 $\frac{1}{8}$ x6	1 $\frac{1}{4}$ x6
Width of Blade	5	5	5	5
Length of Blade	6	6	6	6
Length under Collar	11	11	11	11
Weight	7 $\frac{1}{4}$ pounds	7 $\frac{1}{2}$	8 $\frac{1}{2}$	9 $\frac{1}{4}$

Vulcan Digging Chisels



No.	946	1047	1048	1049
Each				
Hexagon Shank	1x4 $\frac{1}{4}$	1x6	1 $\frac{1}{8}$ x6	1 $\frac{1}{4}$ x6
Width of Blade	3	3	3	3
Length of Blade	10	12	12	12
Length under Collar	15 $\frac{1}{2}$	15 $\frac{1}{2}$	15 $\frac{1}{2}$	15 $\frac{1}{2}$
Weight	7 pounds	8	8 $\frac{1}{2}$	11

Vulcan Clay Spades or Scoops



No.	1078	1079	1080	1081	982
Each					
Size Hex. Shank	3 $\frac{3}{4}$	7 $\frac{7}{8}$	1 $\frac{3}{4}$	1 $\frac{7}{8}$	7 $\frac{7}{8}$
Length Shank	2 $\frac{3}{4}$	2 $\frac{3}{4}$	2 $\frac{3}{4}$	3 $\frac{1}{4}$	3 $\frac{1}{4}$
Width of Blade	5 $\frac{1}{2}$	5 $\frac{1}{2}$	5 $\frac{1}{2}$	5 $\frac{1}{2}$	5 $\frac{1}{2}$
Length of Blade	8 $\frac{1}{2}$	8 $\frac{1}{2}$	8 $\frac{1}{2}$	8 $\frac{1}{2}$	8 $\frac{1}{2}$
Length under Collar	16 $\frac{1}{2}$	16 $\frac{1}{2}$	16 $\frac{1}{2}$	16 $\frac{1}{2}$	16 $\frac{1}{2}$
Weight	6 $\frac{1}{4}$ lb.	6 $\frac{1}{2}$	6 $\frac{1}{4}$	6 $\frac{1}{2}$	6 $\frac{1}{2}$

*Square.

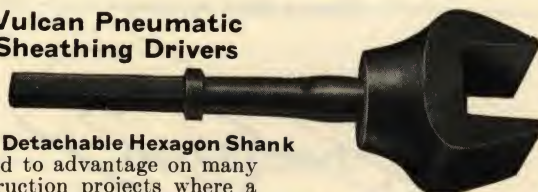
†Hexagon, round.

Vulcan Chisel Bits



No.	Each	Hexagon Shank Inches	BLADE INCHES	Lgth. Under Collar In.	Wt. Lb.
			Width	Lgth.	
934	1 $\frac{1}{8}$ x3 $\frac{3}{4}$	3	..	14
935	1 $\frac{1}{8}$ x3 $\frac{3}{4}$	3	..	18
936	1 x4 $\frac{1}{4}$	3	..	14
937	1 x4 $\frac{1}{4}$	3	..	18
1038	1 x6	3	..	14
1039	1 x6	3	..	18
1040	1 $\frac{1}{8}$ x6	3	..	14
1041	1 $\frac{1}{8}$ x6	3	..	18
1042	1 $\frac{1}{4}$ x6	3	..	14
1043	1 $\frac{1}{4}$ x6	3	..	18

Vulcan Pneumatic Sheathing Drivers



With Detachable Hexagon Shank

Used to advantage on many construction projects where a heavy pneumatic hammer especially built for driving sheathing is not required. The shank socket is a standard taper making all shanks interchangeable.

No.	949	1050	1051	1052	1053	1054
Each						
Shank Size	1	1	1 $\frac{1}{8}$	1 $\frac{1}{8}$	1 $\frac{1}{4}$	1 $\frac{1}{4}$
Shank Length	4 $\frac{1}{4}$	6	6	6	6	6
Lgth. Overall	14 $\frac{3}{4}$	16 $\frac{1}{2}$	16 $\frac{1}{2}$	16 $\frac{1}{2}$	17 $\frac{1}{2}$	17 $\frac{1}{2}$
To Fit Wood Sheathing Thick	2	2	2	3	2	3
Weight	21 pounds	21 $\frac{1}{4}$	22 $\frac{1}{2}$	26 $\frac{1}{2}$	23	27

Heckmann Building Products

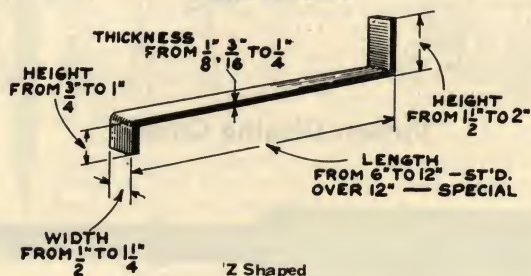
Wall Ties



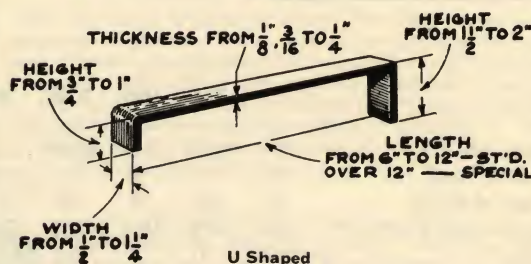
Used in solid brick walls and tile partitions, and between sheathing and brick veneer. Length, 7 inches.

Gage.....	26	26	24	22	20	18	16
Width.....inches	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{7}{8}$	$\frac{7}{8}$	$\frac{7}{8}$	$\frac{7}{8}$	$\frac{7}{8}$
Approx. Weight per M.....lb.	33	38	49	59	70	91	113

Stone Anchors



'Z Shaped

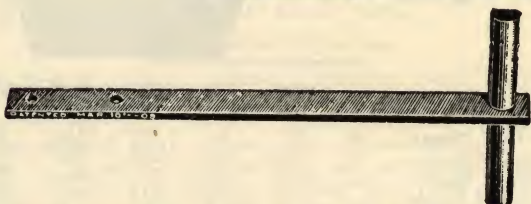


U Shaped

Used in anchoring brick work to concrete and stone foundations or piers.

Size.....inches	$\frac{1}{8}$ x1x6	$\frac{1}{8}$ x1x8	$\frac{1}{8}$ x1x10	$\frac{1}{8}$ x1x12
Asphalt Dip per C.....lb.	27	34	41	48
Galvanized per C.....lb.	28	35	43	50

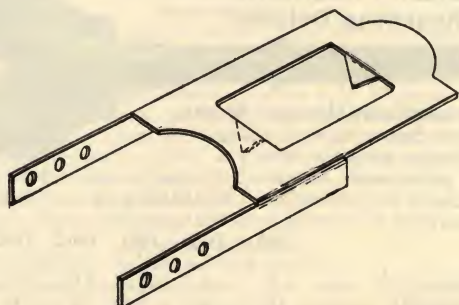
Pin Tee Anchors



For anchoring wood joints to brick and concrete walls.

Size.....inches	$\frac{1}{8}$ x1x14	$\frac{1}{8}$ x1x18	$\frac{3}{16}$ x1x14	$\frac{3}{16}$ x1x18
Weight per C...pounds	65	79	90	111

Eureka Buck Anchors



Used for tying wood buck to clay, gypsum or macalite tile. Made of 24 gage galvanized steel in size 3 inch, weight per M, 130 pounds, and 4 inch, weight per M, 164 pounds.

Jamb Supporting Stays



Holds jambs in perfect position, accurately and permanently.

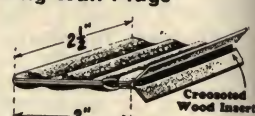
No. 1 is used on sides of all frame buildings where 2 to 2 1/2-inch space is allowed for jamb and blocking.

No. 2 is used on 2x4 bucks, fireproof buildings, where 2 1/2 to 3-inch space is allowed for jamb and blocking.

No. 3 is for wrongly made openings where blocks have to be used.

No.....	1	2	3
Length.....inches	1 1/2	2	3
Approximate Shipping Weight per M.....lb.	18	21	28

Galvanized Metal Furring Wall Plugs



Nos. 1 and 2 are plain. Nos. 3 and 4 have creosoted wood insert. Packed 500 to 1 box.

No.....	1	2	3	4
Size.....inches	2 1/4 x 2 3/4	2 1/2 x 2	2 1/4 x 2 3/4	2 1/2 x 2
Approx. Ship. Wt. per M...lb.	100	75	125	100

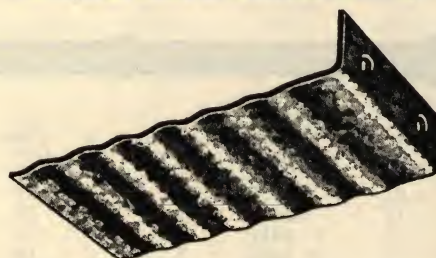
V Type Buck Tile Anchors



Adaptable to both gypsum and clay tile walls of all sizes to 6 inches. For all around purposes. Made of 22 gage steel galvanized.

Packed 500 to a carton. Shipping weight per M approximately 90 pounds.

Corrugated Buck and Frame Anchors



Made of 16 gage steel with holes for No. 10 wood screws. Asphalt dipped.

Width.....inches	1 1/4	1 1/2	2	3	4
Length.....inches	3 3/4	8	8	8	8
R. A. Bend.....inches	3/4	2	2	2	2
Weight per 100.....pounds	17	21	28	42	56

Heckmann Building Products Concrete Nails

For nailing corner beads, wood screeds, furring strips, carpet strips, carpets and sleepers to concrete columns, concrete walls, cement mortar joints and concrete floors. Sizes $\frac{1}{2}$ to $\frac{3}{4}$ inch longer than thickness of material should be used. Very hard concrete takes nail $\frac{1}{2}$ inch longer than thickness of material; for ordinary concrete, $\frac{5}{8}$ inch.



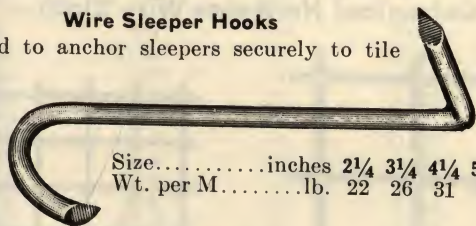
Size Inches	Approx. No. per Pound	Size Inches	Approx. No. per Pound	Size Inches	Approx. No. per Pound	Size Inches	Approx. No. per Pound
$\frac{1}{2}$	300	1	180	$\frac{13}{4}$	100	$\frac{21}{2}$	75
$\frac{5}{8}$	280	$1\frac{1}{4}$	140	2	90	$\frac{23}{4}$	70
$\frac{3}{4}$	210	$1\frac{1}{2}$	120	$2\frac{1}{4}$	80	3	65

Magnetized Punches

Convenient for holding and starting $\frac{1}{2}$ -inch stub nails into hard concrete. Approximate weight, $\frac{1}{4}$ pound.

Wire Sleeper Hooks

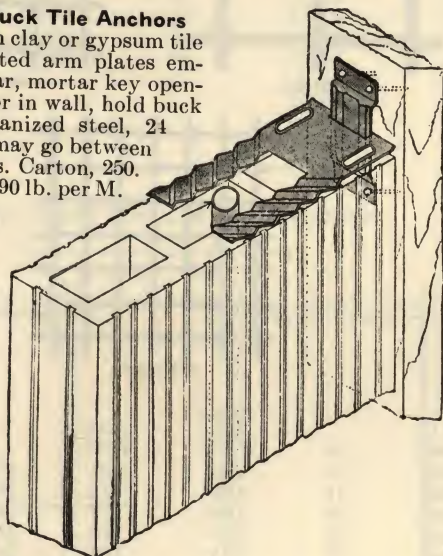
Used to anchor sleepers securely to tile floor.



Size.....inches	$2\frac{1}{4}$	$3\frac{1}{4}$	$4\frac{1}{4}$	$5\frac{1}{4}$	$6\frac{1}{4}$
Wt. per M.....lb.	22	26	31	36	41

Adjustable Buck Tile Anchors

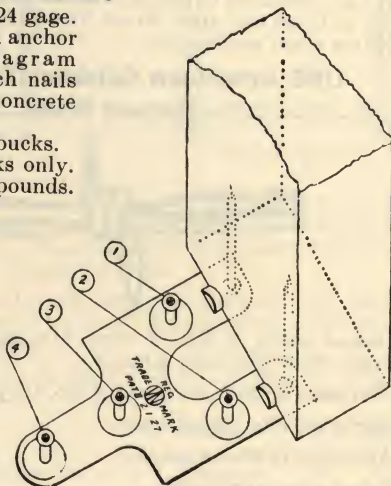
For 3 or 4-inch clay or gypsum tile walls. Corrugated arm plates embedded in mortar, mortar key openings, lock anchor in wall, hold buck in place. Galvanized steel, 24 gage. Conduit may go between corrugated arms. Carton, 250. Ship. wt. about 90 lb. per M.



Concrete Floor Buck Anchors

Galvanized steel, 24 gage. Each buck requires 1 anchor on each side. Diagram shows order in which nails should be driven in concrete floor.

No. 1, 3 to 6 inch bucks.
No. 2, 2 inch bucks only.
Weight per M, 100 pounds.



Bull Dog Floor Clips



Anchors wood floors over concrete, with or without a fill.

By using these clips there are 6 steps for laying wood floors in concrete construction: No. 1, placing clips using double straight edge and guides; No. 2, top tabs bent up with chisel when ready to install sleepers; No. 3, sleepers are placed between raised tabs and held snugly; No. 4, strips are leveled up and nailed through holes punched in tabs; No. 5, low places are wedged and then slushed in with thin cement mortar; No. 6, finished floor nailed to sleepers in usual manner.



The above illustration shows the tabs raised, floor in place and the sleeper nailed snugly and firmly in place. Joints should come within the clips and both ends nailed. Clip is of one piece construction. No joints or hinges to loosen, break or corrode. After strips are leveled and nailed in place, there may be a few low spots under the strips. A wedge is driven under strip at side of clip and hollow slushed full of thin cement mortar, if necessary. This insures a firm and solid bearing the length of each strip. Strip will not pull from the clip. Use $7 \times 1\frac{1}{4}$ -inch nails which snugly fit nail holes in the clip. Nails included in each shipping case (4 per unit.)

Made in 3 sizes, for sleepers: 2x2, 2x3 and 2x4 inches. The 2 and 3-inch are 20 gauge; 4-inch, 18 gauge galvanized sheet metal. Prices upon application.

Barrett Adjustable Concrete Inserts



This insert is made of malleable iron and has six nailing points, two on the exact center for quick spotting, and four on the corners for added security.

It is reversible—use either head or nut out.

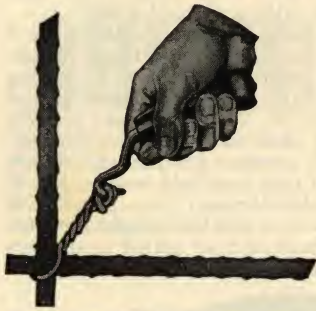
Adjustment, $1\frac{1}{2}$ inches on centers.

For pipe hangers: $\frac{5}{8}$ -inch bolt size fits $\frac{1}{4}$ and $\frac{3}{8}$ -inch Crane buttons; $\frac{3}{4}$ -inch bolt size fits $\frac{1}{2}$ -inch Crane buttons.

Bolt Size.....inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$
Per 100.....	\$24.00	30.00	38.00	52.00
Shipping Weight, per 100.....lb.	23	28	46	68

**A COMPLETE SOURCE
OF SUPPLY
FOR YOUR
INDUSTRIAL AND
CONSTRUCTION NEEDS**

Bates Wire Ties and Tying Tools
For Tying Reinforcing Steel

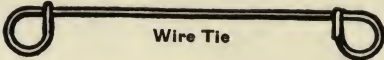


Tying Concrete Reinforcing Bars
with Wire Tie and Tying Tool

loop ends and with a few turns, the bars are securely tied.

Bates loop end wire ties are made of a special annealed, dead soft wire ranging from 12 to 21 gauge and in lengths from 2½ to 48 inches overall.

The tie is bent around the bar intersection until the two loop ends meet. The hook on the tying tool is then inserted in the



Wire Tie

Bates Wire Ties are shipped in rolls of 5000.

Wire Tie Table
For Various Rod Combinations

Size In.	*Type	SIZE, INCHES									
		¼	⅜	½	⅝	¾	7⁄8	1	1 1⁄8	1 1⁄4	
1/4	R	3	3 1/2	4	4 1/2	5	6	6	6 1/2	6 1/2	
1/4	S	3 1/2	4	4 1/2	5 1/2	6	7	7	7 1/2	7 1/2	
3/8	R	3 1/2	4	4 1/2	5 1/2	6	7	7	7 1/2	7 1/2	
3/8	S	4	4 1/2	5 1/2	6 1/2	7	8	8	8 1/2	8 1/2	
1/2	R	4	4 1/2	5 1/2	6 1/2	7	8	8	8 1/2	8 1/2	
1/2	S	4 1/2	5 1/2	6 1/2	7 1/2	8	9	9	9 1/2	9 1/2	
5/8	R	4 1/2	5 1/2	6 1/2	7 1/2	8	9	9	9 1/2	9 1/2	
5/8	S	5 1/2	6 1/2	7 1/2	8 1/2	9	10	10	10 1/2	10 1/2	
3/4	R	5	6	7	8	9	10	10	10 1/2	10 1/2	
3/4	S	6	7	8	9	10	11	11	11 1/2	11 1/2	
7/8	R	6	7	8	9	10	11	11	11 1/2	11 1/2	
7/8	S	7	8	9	10	11	12	12	12 1/2	12 1/2	
1	R	6 1/2	7 1/2	8 1/2	9 1/2	10 1/2	11 1/2	11 1/2	12 1/2	12 1/2	
1	S	7 1/2	8 1/2	9 1/2	10 1/2	11 1/2	12 1/2	12 1/2	13 1/2	13 1/2	
1 1/8	R	6 1/2	7 1/2	8 1/2	9 1/2	10 1/2	11 1/2	11 1/2	12 1/2	12 1/2	
1 1/8	S	7 1/2	8 1/2	9 1/2	10 1/2	11 1/2	12 1/2	12 1/2	13 1/2	13 1/2	
1 1/4	R	6 1/2	7 1/2	8 1/2	9 1/2	10 1/2	11 1/2	11 1/2	12 1/2	12 1/2	
1 1/4	S	7 1/2	8 1/2	9 1/2	10 1/2	11 1/2	12 1/2	12 1/2	13 1/2	13 1/2	

*The letter R indicates round deformed; S, square deformed or twisted.

Length Inches	Gage	Per 1000	Length Inches	Gage	Per 1000
3 and 3 1/2	17	\$1.90	8 and 8 1/2	16	\$2.75
4 and 4 1/2	17	2.10	9 and 9 1/2	16	2.95
5 and 5 1/2	17-16	2.25	10	16	3.20
6 and 6 1/2	16	2.40	..	..	..
7 and 7 1/2	16	2.60	..	..	..

Pistol Grip Tying Tools

No. A-232, Small Grip.....	each	\$1.25
No. A-1032, Large Grip.....	each	1.50

Bates Spring Return Twisters



For loop ties made of 19 to 16-gage wire. Primarily used for tying bags. Also used for tying concrete reinforcing bars.

Handle is of steel tubing; has zinc end cap and spiral of drill rod. Special steel wire spring and steel hook.

One pull makes a 2½ turn twist; hook automatically returns to original position.

	Light	Medium	Heavy
Each.....	\$3.15	4.25	5.50
For Gage Ties.....	19, 18	19, 18, 17	19, 18, 17, 16
Weight.....ounces	9	11 1/4	22

Steel Bale Ties

Single Loop—Standard Weight



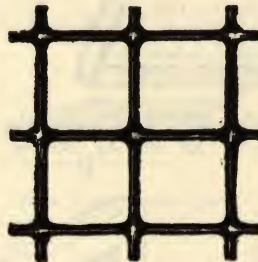
	No. 14 Wire	No. 15 Wire
Length.....feet	9 9 1/2	9 9 1/2
Per Bundle.....	..	..
Wt. per Bundle.....pounds	39.8 42	32.3 68

RIDDLE and SAND
SCREEN WIRE CLOTH

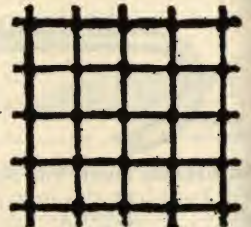
—ALL GAGES—

Prices on Application

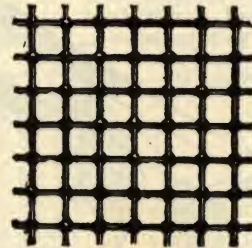
Galvanized Hardware Wire Cloth



2x2 Mesh



4x4 Mesh

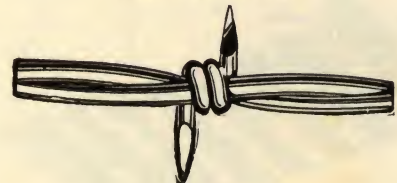


6x6 Mesh

Mesh	No.	Decimal Size of Wire	Decimal Opening	Stock Width
2x2	19	.041	.459	24, 30, 36 and 48
3x3	21	.032	.301	24, 30, 36 and 48
4x4	22	.028	.222	24, 30, 36 and 48
6x6	25	.020	.147	24, 30, 36 and 48
8x8	27	.017	.108	24, 30, 36 and 48

We are prepared to furnish various gauges and mesh wire cloth in brass and steel direct from the factory.
Prices upon application.

USS American Glidden Two Point
Barbed Wire



Round barbs of No. 14 steel wire gage wrapped twice around one of the main strands.

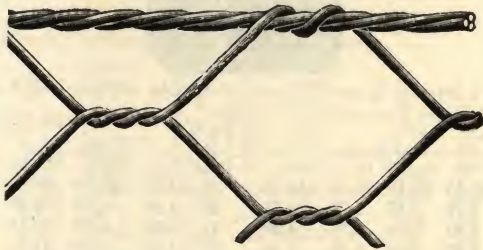
The main strands are made of No. 12½ gage. Galvanized.

Barbs are four inches apart.

Available in 80-rod spools.

Prices upon application.

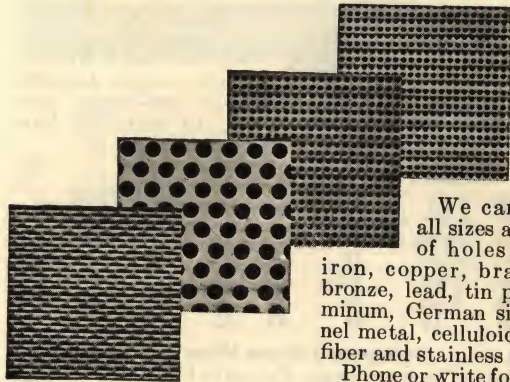
Hexagonal Poultry Netting No. 20 Gage



Continuous twist. Steel. Put up in 150-foot rolls.

Size x Width Inches	Galvanized Before Weaving		Galvanized After Weaving	
	Per Roll	Wt. Lb. per Roll	Per Roll	Wt. Lb. per Roll
2 x24	\$3.50	17	\$4.40	19
2 x36	4.85	24	6.20	27
2 x48	6.35	31	8.05	35
2 x60	7.50	37	9.85	43
2 x72	8.85	44	11.65	51
1 x12	3.85	17	4.85	18
1 x18	5.50	24	6.95	26
1 x24	6.95	30	9.10	34
1 x36	10.05	43	13.20	50
1 x48	13.00	56	17.10	65
1 x60	16.00	69	21.20	80
1 x72	19.40	83	25.60	97
3/4x12	.....	..	8.40	25
3/4x18	.....	..	12.05	36
3/4x24	.....	..	15.45	46
3/4x36	.....	..	22.50	67
3/4x48	.....	..	29.60	89

Perforated Metals

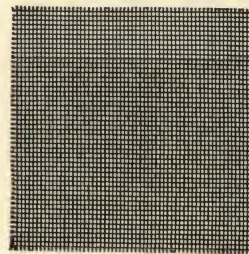


We can furnish all sizes and shapes of holes in steel, iron, copper, brass, zinc, bronze, lead, tin plate, aluminum, German silver, monel metal, celluloid, rubber, fiber and stainless steel. Phone or write for more information or quotations.

Brass Wire Strainer Cloth

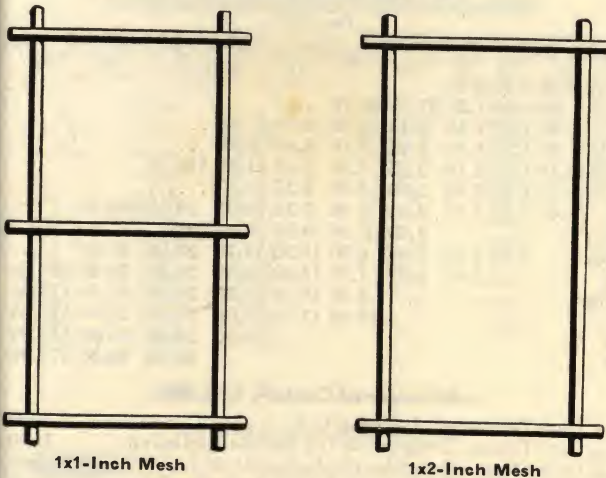
This brass wire strainer cloth is made from a good grade of brass wire woven as heavy as the market grade. Furnished in small rolls, 12 inches wide by 5 feet long. Can also be furnished 36 inches wide in 100 lineal foot rolls.

When ordering, state size mesh wanted.



Mesh No.	Per Sq. Foot
20
30
40
50
60
70
80
90
100

Perma Gard Welded Wire Fabric Galvanized after Welding



1x1-Inch Mesh

1x2-Inch Mesh

For wire partitions, tool cribs, stock shelf backing, guards on windows, skylights, freight elevator gates, ventilators, fans, and machinery. Plant carpenters can easily install; no special framing or fittings required.

Welded in a perfectly uniform pattern of stiff, high tensile wire; galvanized after welding. Selvage flush trimmed at angle for smooth edges.

Made in 12, 18, 24, 30, 36 and 48-inch widths, in rolls of 100 lineal feet.

Size.....inches	1x1	1x2
Gage.....	14x14	14x14
Weight per 100 Square Feet.....pounds	42	31

G & B Insect Wire Screening



Pearl: 16x16 mesh, .012-inch diameter steel wire. Galvanized. Zinc coating drawn into surface of wire, woven and finishing coat of baked plastic, green tint, applied that kills glare.

Acme: 18x14 mesh, .011-inch diameter steel wire, electro-galvanized in light gray baked enamel finish.

Bright Bronze: 18x14 mesh .011-inch diameter hard drawn.

All screenings 24, 26, 28, 30, 32, 36, 42 and 48 inches wide length 100 lineal feet.

Industrial Wire Cloth

Fine mesh steel, galvanized, zinc coating drawn into surface of wire; 10 mesh, .016-in. diameter, 20 mesh, .011-in. diameter; 24 mesh, .009-in. diameter; 30 mesh .009-in. diameter. Widths, 24, 30, 36 inches; 100 lineal feet long.

USS American Stone Wire



Available in A. S. & W. gage No. 16 and finer in annealed and galvanized finishes.

Put up in 8-inch inside diameter coils.

Weight, 12 pounds.

Annealed and Galvanized Merchant

Quality Wire

Steel Wire Gage
American Steel & Wire Co.Even weight bundles,
except 100-pound bundles,
10 cents per bundle extra.

Extra Over Base for Size—Per 100 Pounds

Gage No.	Annealed	Gal.	Gage No.	Annealed	Gal.	Gage No.	Annealed	Gal.
14-1/2	Spec.	Spec.	11	\$.15	\$.15	15	\$.55	\$.85
5-1/4	Spec.	Spec.	12	.20	.25	16	.75	1.10
6, 7, 8	Base	Base	12 1/2	.25	.35	17	1.00	1.45
9	\$.05	\$.05	13	.25	.35	18	1.50	2.25
10	.10	.10	14	.35	.55	..	..	..

Galvanized Brace Wire

Furnished in No. 8 or 9 gage. Put up in 100-pound bundles (twenty 5-pound coils). Prices on application.

Music Wire

For all work where a reliable, high grade steel spring wire is required. Suited for all types of springs.

Gage Nos. 00 to 26 inclusive, packed in 1/4-pound packages; 00 to 37 inclusive, in 1 pound packages; 8 to 40 inclusive, in 5-pound packages.

In ordering, specify diameter.



Ga. No.	Diam. In.	Feet per Lb.	Ga. No.	Diam. In.	Feet per Lb.	Ga. No.	Diam. In.	Feet per Lb.
00	.0085	5140	13	.030	420	27	.067	85
0	.009	4565	14	.032	375	28	.071	75
1	.010	3975	15	.034	330	29	.074	68
2	.011	3425	16	.036	295	30	.078	61
3	.012	2960	17	.038	265	31	.082	55
4	.013	2600	18	.040	235	32	.086	50
5	.014	2025	19	.042	215	33	.091	40
6	.016	1555	20	.044	200	34	.102	..
7	.018	1225	21	.046	180	35	.109	..
8	.020	1000	22	.048	165	36	.118	..
9	.022	760	23	.051	150	37	.125	..
10	.024	680	24	.055	130	38	.134	..
11	.026	575	25	.059	110	39	.148	..
12	.028	485	26	.063	95	40	.156	..

Stove Pipe Wire

In 50-foot coils. Packed one dozen coils in a box and 20 boxes in a case.

Furnished lacquered, annealed, rust-proof enameled, galvanized and coppered in 18, 19 and 20 W & M gage.

Prices upon application.



Malin Black Annealed Steel Wire

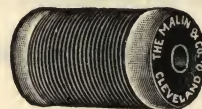
On Spools

W. & M. or A.S. & W. Gage

The 1-ounce, 1/4 and 1/2-pound spools are packed one dozen in a box; the 1-pound spools, 1/2 dozen in a box.



Ga. No.	1 Oz.	1/4 Lb.	1/2 Lb.	1 Lb.	Ga. No.	1 Oz.	1/4 Lb.	1/2 Lb.	1 Lb.
14	\$1.80	\$2.70	\$4.50	\$8.30	26	\$2.70	\$4.05	\$6.75	\$11.80
15	1.80	2.70	4.50	8.30	27	2.70	4.05	6.75	11.80
16	1.95	2.85	4.75	8.75	28	2.85	4.20	7.00	12.25
17	1.95	2.85	4.75	8.75	29	3.00	4.35	7.25	12.60
18	2.10	3.15	5.25	9.20	30	3.15	4.50	7.50	12.95
19	2.10	3.15	5.25	9.20	31	3.30	4.65	7.75	13.25
20	2.25	3.30	5.50	9.80	32	3.45	4.80	8.00	13.70
21	2.25	3.30	5.50	9.80	33	3.60	5.10	8.25	14.50
22	2.40	3.45	5.75	10.10	34	3.90	5.70	9.00	15.75
23	2.40	3.45	5.75	10.10	35	4.20	6.30	10.25	18.00
24	2.55	3.75	6.25	11.00	36	4.80	6.75	12.00	21.05
25	2.55	3.75	6.25	11.00	..	..	..	..	..

Annealed Tinned and Galvanized Steel Wire
On Spools

The 1 ounce, 1/4 and 1/2-pound spools are packed 1 dozen to a box; the 1-pound, 6 to a box.

W.&M. or A.S.&W. Gage	1-Oz.	1/4-Lb.	1/2-Lb.	1-Lb.	W.&M. or A.S.&W. Gage	1-Oz.	1/4-Lb.	1/2-Lb.	1-Lb.
14-15	\$2.55	\$3.15	\$5.25	\$10.10	29	\$3.75	\$5.70	\$9.25	\$15.75
16-17	2.70	3.45	5.75	10.55	30	3.90	6.00	9.60	16.20
18-19	2.85	3.75	6.25	11.00	31	4.20	6.30	10.10	17.10
20-21	3.00	4.05	6.65	11.50	32	4.50	7.05	11.35	19.35
22-23	3.15	4.35	7.00	11.80	33	4.80	7.35	11.85	20.15
24-25	3.30	4.65	7.50	12.70	34	5.25	7.95	12.90	21.95
26-27	3.45	4.95	8.00	13.65	35	5.70	9.00	14.60	24.95
28	3.60	5.40	8.75	14.95	36	6.75	10.50	17.10	29.35

Malin Soft and Spring Brass and Soft Copper

Wire on Spools

B & S Gage

The 1-ounce, 1/4 and 1/2-pound spools are packed one dozen to a box; the 1-pound, one-half dozen to a box.



PER DOZEN SPOOLS					PER DOZEN SPOOLS				
Ga. No.	1-Oz.	1/4-Lb.	1/2-Lb.	1-Lb.	Ga. No.	1-Oz.	1/4-Lb.	1/2-Lb.	1-Lb.
14	7.85	14.25	24.60		26	5.25	11.25	20.40	33.75
15	7.85	14.25	24.60		27	5.25	11.25	20.40	33.75
16	4.25	8.25	14.95	25.80	28	5.65	12.40	22.10	37.20
17	4.25	8.25	14.95	25.80	29	6.20	13.15	23.45	39.75
18	4.40	8.65	15.65	27.00	30	6.60	14.10	25.15	42.75
19	4.40	8.65	15.65	27.00	31	7.00	15.00	27.20	46.20
20	4.55	9.20	16.60	28.20	32	7.55	15.90	29.25	49.80
21	4.55	9.20	16.60	28.20	33	8.25	16.85	31.30	53.25
22	4.80	9.75	17.70	30.00	34	8.90	17.80	33.35	56.70
23	4.80	9.75	17.70	30.00	35	9.60	19.65	36.00	61.50
24	5.10	10.50	19.00	32.25	36	10.30	21.50	38.40	66.15
25	5.10	10.50	19.00	32.25					

Steel Spring Cotters



Per 1000

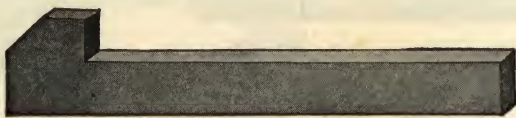
Lgth. In.	1/16	3/32	1/8	5/32	3/16	1/4	5/16	3/8	1/2	5/8
1/2	\$.50	\$.65	\$.95	..	..	..	..	..	..	..
3/4	.65	.90	1.25	\$2.05	\$2.70	..	..	..	..	..
1	.80	1.00	1.55	2.45	3.20	\$5.40	\$8.50	..	..	..
1 1/4	.95	1.25	1.85	2.95	3.75	6.40	9.90	..	..	..
1 1/2	1.10	1.45	2.15	3.35	4.30	7.40	11.30	\$16.50	..	..
1 3/4	1.25	1.65	2.45	3.80	4.85	8.35	12.65	..	..	..
2	1.40	1.80	2.75	4.20	5.40	9.35	14.00	19.80	\$46.00	..
2 1/4	..	..	..	4.60	5.95	10.35	15.40	..	..	..
2 1/2	..	2.40	3.35	5.05	6.50	11.30	16.75	23.10	52.50	..
3	..	..	3.95	5.90	7.75	13.30	19.50	26.40	59.00	\$97.00
3 1/2	..	..	..	..	8.90	15.30	22.25	29.70	65.50	110.00
4	..	..	..	..	10.05	17.30	25.00	33.00	72.00	122.00
5	..	..	..	..	..	..	30.50	39.60	85.00	147.00
6	..	..	..	..	..	..	..	46.20	98.00	173.00

Number of Cotters in a Box

1/16	Inch Diameter, Lengths to 2	1000
3/32	Inch Diam., Lengths to 1 1/2 Inches Inclusive	1000
1/8	Inch Diam., Lengths 1 3/4 Inches to 2 1/2	500
1/8	Inch Diam., Lengths to 1 Inch Inclusive	1000
1/8	Inch Diam., Lengths 1 1/8 Inch to 3	500
3/32	Inch Diam., Lengths to 1 Inch Inclusive	1000
3/32	Inch Diam., Lengths 1 1/8 Inch to 3	500
3/16	Inch Diam., Lengths to 3/8 Inch Inclusive	1000
3/16	Inch Diam., 1 to 1 1/2-Inch Lengths and Shorter	500
1/4	Inch Diam., Lengths 1 3/4 Inches to 4	250
1/4	Inch Diam., Lengths to 2 Inches, Inclusive	250
1/4	Inch Diam., Lengths 2 1/4 Inches to 4	125
5/16	Inch Diam., Lengths to 3 Inches, Inclusive	125
5/16	Inch Diam., Lengths 3 1/4 Inches to 4	100

Diam., 3/8, 7/16, 1/2, 5/8 and 3/4 in., 4 1/4 in. and longer, in bulk. Prices are for standard packages; extra for other than standard packing.

Gib Head Machine Keys



All keys are made standard taper of 1/8-inch per foot unless otherwise specified.

Length Under Head In.	PER 100						
	SIZE, INCHES						
	1/8	3/16	1/4	5/16	3/8	7/16	1/2
1	\$9.00	\$9.25	\$9.50	\$10.00	\$11.00	\$12.50	\$14.50
1 1/2	9.60	9.90	10.20	10.75	11.90	13.55	15.80
2	10.20	10.55	10.90	11.50	12.80	14.60	17.10
2 1/2	10.80	11.20	11.60	12.25	13.70	15.65	18.40
3	11.40	11.85	12.30	13.00	14.60	16.70	19.70
3 1/2	12.00	12.50	13.00	13.75	15.50	17.75	21.00
4	12.60	13.15	13.70	14.50	16.40	18.80	22.30
4 1/2	13.20	13.80	14.40	15.25	17.30	19.85	23.60
5	13.80	14.45	15.10	16.00	18.20	20.90	24.90
5 1/2	.....	.....	15.80	16.75	19.10	21.95	26.20
6	.....	.....	16.50	17.50	20.00	23.00	27.50
6 1/2	.....	.....	.....	18.25	20.90	24.05	28.80
7	.....	.....	.....	19.00	21.80	25.10	30.10
7 1/2	.....	.....	.....	.....	22.70	26.15	31.40
8	.....	.....	.....	.....	23.60	27.20	32.70
8 1/2	.....	.....	.....	.....	24.50	28.25	34.00
9	.....	.....	.....	.....	.....	29.30	35.30
9 1/2	.....	.....	.....	.....	.....	30.35	36.60
10	.....	.....	.....	.....	.....	31.40	37.90
10 1/2	.....	.....	.....	.....	.....	39.20	47.40
11	.....	.....	.....	.....	.....	40.50	49.00
11 1/2	.....	.....	.....	.....	.....	41.80	50.60
12	.....	.....	.....	.....	.....	.....	52.20
12 1/2	.....	.....	.....	.....	.....	.....	53.80
13	.....	.....	.....	.....	.....	.....	55.40

Length Under Head In.	PER 100						
	SIZE, INCHES						
	5/8	1 1/16	3/4	13/16	7/8	1 5/16	1
1 1/2	\$21.95	\$25.90	\$30.35	\$35.25	.....	.....	.....
2	23.90	28.30	33.20	38.65	\$44.55	\$50.90	.....
2 1/2	25.85	30.70	36.05	42.05	48.55	55.55	\$63.20
3	27.80	33.10	38.80	45.45	52.55	60.20	68.60
3 1/2	29.75	35.50	41.75	48.85	56.55	64.85	74.00
4	31.70	37.90	44.60	52.25	60.55	69.50	79.40
4 1/2	33.65	40.30	47.45	55.65	64.55	74.15	84.80
5	35.60	42.70	50.30	59.05	68.55	78.80	90.20
5 1/2	37.55	45.10	53.15	62.45	72.55	83.45	95.60
6	39.50	47.50	56.00	65.85	76.55	88.10	101.00
6 1/2	41.45	49.90	58.85	69.25	80.55	92.75	106.40
7	43.40	52.30	61.70	72.65	84.55	97.40	111.80
7 1/2	45.35	54.70	64.55	76.05	88.55	102.05	117.20
8	47.30	57.10	67.40	79.45	92.55	106.70	122.60
8 1/2	49.25	59.50	70.25	82.85	96.55	111.35	128.00
9	51.20	61.90	73.10	86.25	100.55	116.00	133.40
9 1/2	53.15	64.30	75.95	89.65	104.55	120.65	138.80
10	55.10	66.70	78.80	93.05	108.55	125.30	144.20
10 1/2	57.05	69.10	81.65	96.45	112.55	129.95	149.60
11	59.00	71.50	84.50	99.85	116.55	134.60	155.00
11 1/2	60.95	73.90	87.35	103.25	120.55	139.25	160.40
12	62.90	76.30	90.20	106.65	124.55	143.90	165.80
12 1/2	64.85	78.70	93.05	110.05	128.55	148.55	171.20
13	66.80	81.10	95.90	113.45	132.55	153.20	176.60
13 1/2	68.75	83.50	98.75	116.85	136.55	157.85	182.00
14	70.70	85.90	101.60	120.25	140.55	162.50	187.40
14 1/2	72.65	88.30	104.45	123.65	144.55	167.15	192.80
15	.....	90.70	107.30	127.05	148.55	171.30	198.20
15 1/2	.....	93.10	110.15	130.45	152.55	176.45	203.60
16	.....	95.50	113.00	133.85	156.55	181.10	209.00
16 1/2	.....	.....	115.85	137.25	160.55	185.75	214.40
17	.....	.....	118.70	140.65	164.55	190.40	219.80
17 1/2	.....	.....	121.55	144.05	168.55	195.05	225.20
18	.....	.....	124.40	147.45	172.55	199.70	230.60

Woodruff Type Keys



Tolerance on width is from basic size given to plus .001 inch.

Keyways should be cut so that the keys project above the shaft one-half their thickness.

When ordering, specify one of the three numbers shown.

A.S.M.E. Std. No.	S.A.E. Std. No.	S.S.S. Std. No.	Width In.	Diam. In.	Carbon S.A.E. 1035 per 100	Alloy Heat Treated per 100
.....	.....	211	1/16x	3/8	\$.81	\$.86
.....	.....	212	3/32x	3/8	.86	.98
.....	.....	213	1/8x	3/8	.92	1.04
204	10	1	1/16x	1/2	.22	.27
304	20	2	3/32x	1/2	.25	.33
404	30	3	1/8x	1/2	.29	.42
305	40	4	3/32x	5/8	.33	.43
405	50	5	1/8x	5/8	.42	.57
505	60	6	3/32x	5/8	.53	.69
.....	.....	61	1/16x	5/8	.64	.83
406	70	7	1/8x	3/4	.51	.69
506	80	8	3/32x	3/4	.62	.82
606	90	9	1/16x	3/4	.70	1.00
.....	.....	91	1/4x	3/4	.95	1.33
507	100	10	3/32x	7/8	.89	1.22
607	110	11	1/16x	7/8	1.01	1.43
.....	.....	12	7/32x	7/8	1.14	1.67
807	115	A	1/4x	7/8	1.29	1.85
608	130	13	3/16x1	.....	1.27	1.85
.....	.....	14	7/32x1	.....	1.50	2.18
808	150	15	1/4x1	.....	1.65	2.43
1008	155	B	5/16x1	.....	1.96	2.94
609	160	16	3/16x1 1/8	.....	1.52	2.20
.....	.....	17	7/32x1 1/8	.....	1.76	2.51
809	180	18	1/4x1 1/8	.....	2.06	2.87
1009	185	C	5/16x1 1/8	.....	2.49	3.42
.....	.....	19	3/16x1 1/4	.....	1.94	2.75
.....	.....	20	7/32x1 1/4	.....	2.22	3.24
810	210	21	1/4x1 1/4	.....	2.49	3.54
1010	215	D	5/16x1 1/4	.....	2.97	4.34
1210	225	E	3/8x1 1/4	.....	3.45	5.13
811	.....	22	1/4x1 3/8	.....	2.97	4.27
1011	.....	23	5/16x1 3/8	.....	3.45	5.07
1211	.....	F	3/8x1 3/8	.....	3.87	5.81
812	.....	24	1/4x1 1/2	.....	3.39	4.88
1012	.....	25	5/16x1 1/2	.....	4.18	6.05
1212	.....	G	3/8x1 1/2	.....	4.84	7.08
.....	.....	126	1/2x2 1/8	.....	1.94	2.39
.....	.....	127	1/4x2 1/8	.....	2.42	3.00
.....	.....	128	5/16x2 1/8	.....	2.85	3.54
.....	.....	129	3/8x2 1/8	.....	3.33	4.15
.....	.....	26	3/16x2 1/8	.....	2.73	3.82
.....	.....	27	1/4x2 1/8	.....	3.58	4.96
.....	.....	28	5/16x2 1/8	.....	4.42	6.17
.....	.....	29	3/8x2 1/8	.....	5.08	7.21
.....	.....	Rx	1/4x2 3/4	.....	5.08	6.96
.....	.....	Sx	5/16x2 3/4	.....	5.81	8.11
.....	.....	Tx	3/8x2 3/4	.....	6.53	9.32
.....	.....	Ux	1/2x2 3/4	.....	7.26	10.53
.....	.....	Vx	1/2x2 3/4	.....	7.99	11.68
.....	.....	R	1/4x2 3/4	.....	6.24	8.78
.....	.....	S	5/16x2 3/4	.....	7.33	10.53
.....	.....	T	3/8x2 3/4	.....	8.42	12.22
.....	.....	U	7/16x2 3/4	.....	9.38	13.86
.....	.....	V	1/2x2 3/4	.....	10.16	15.31
.....	.....	30	3/8x3 1/2	.....	12.29	19.36
.....	.....	31	7/16x3 1/2	.....	13.79	22.00
.....	.....	32	1/2x3 1/2	.....	14.95	23.65
.....	.....	33	9/16x3 1/2	.....	16.58	26.02
.....	.....	34	5/8x3 1/2	.....	17.79	27.23
.....	.....	35	1 1/16x3 1/2	.....	19.60	30.25
.....	.....	36	3/4x3 1/2	.....	21.05	32.07



Minute Man Keyway Broach Sets

Sets contain everything needed to cut given range of standard widths to standard depth. Precision broaches, slotted bushings, shims and square key stock. Sturdy cases compartmented to protect tools and permit rapid, accurate selection of right sizes. Bushings sizes plainly visible.

Nos. 1 and 1A, Standard, Carbon Steel

For $\frac{1}{8}$, $\frac{3}{16}$, $\frac{1}{4}$, and $\frac{3}{8}$ -inch keyways. Cuts 18 different keyways.

Broaches Inches	BUSHINGS (AND HOLE SIZES), INCHES	
	No. 1	No. 1A
$\frac{1}{8}$ -B	$\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$	$\frac{9}{16}$, $\frac{11}{16}$, $\frac{13}{16}$
$\frac{3}{16}$ -B		
$\frac{1}{4}$ -C	1, $1\frac{1}{8}$, $1\frac{1}{4}$, $1\frac{3}{8}$, $1\frac{1}{2}$	$\frac{15}{16}$, $1\frac{1}{16}$, $1\frac{1}{8}$, $1\frac{1}{4}$, $1\frac{3}{8}$, $1\frac{1}{2}$
$\frac{3}{8}$ -C		
No. 1, Complete.....	each \$51.50	
No. 1A, Complete.....	each 51.50	

Nos. 3 and 3A

For $\frac{1}{8}$, $\frac{3}{16}$, and $\frac{1}{4}$ -inch keyways. Cuts 15 different keyways.

Broaches Inches	BUSHINGS (AND HOLE SIZES) INCHES	
	No. 3	No. 3A
$\frac{1}{8}$ -C	$\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$	$\frac{9}{16}$, $\frac{11}{16}$, $\frac{13}{16}$
$\frac{3}{16}$ -C		
$\frac{1}{4}$ -C	$\frac{7}{8}$, 1, $1\frac{1}{8}$, $1\frac{1}{4}$, $1\frac{3}{8}$, $1\frac{1}{2}$	$\frac{15}{16}$, $1\frac{1}{16}$, $1\frac{1}{8}$, $1\frac{1}{4}$, $1\frac{3}{8}$, $1\frac{1}{2}$
No. 3, Complete.....	each \$43.75	
No. 3A, Complete.....	each 43.75	

No. 4

For $\frac{5}{16}$, $\frac{3}{8}$, $\frac{1}{2}$, and $\frac{1}{4}$ -inch keyways. Extension shank is provided. Cuts 32 different keyways.

Broach Inches	Bushings (and Hole Sizes) Inches
$\frac{5}{16}$ -D	$\frac{1}{16}$, $\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1, $1\frac{1}{8}$, $1\frac{1}{4}$, $1\frac{3}{8}$, $1\frac{1}{2}$, $1\frac{5}{8}$, $1\frac{3}{4}$, $1\frac{7}{8}$, 2
$\frac{3}{8}$ -D	
$\frac{1}{2}$ -D	

No. 4A

For $\frac{5}{16}$, $\frac{3}{8}$, $\frac{1}{2}$ and $\frac{1}{4}$ -inch keyways. Extension shank provided. Cuts 32 different keyways.

Broach Inches	Bushings (and Hole Sizes) Inches
$\frac{5}{16}$ -D	$\frac{1}{16}$, $\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1, $1\frac{1}{8}$, $1\frac{1}{4}$, $1\frac{3}{8}$, $1\frac{1}{2}$, $1\frac{5}{8}$, $1\frac{3}{4}$, $1\frac{7}{8}$, 2
$\frac{3}{8}$ -D	
$\frac{1}{2}$ -D	

No. 5

For $\frac{1}{2}$, $\frac{5}{8}$ and $\frac{3}{4}$ -inch keyways. Extension shank provided. Cuts 29 different keyways.

Broach Inches	Bushings (and Hole Sizes) Inches
$\frac{1}{2}$ -D	2, $2\frac{1}{8}$, $2\frac{1}{4}$, $2\frac{3}{8}$, $2\frac{1}{2}$, $2\frac{5}{8}$, $2\frac{3}{4}$, $2\frac{7}{8}$, 3, $3\frac{1}{8}$, $3\frac{1}{4}$, $3\frac{3}{8}$, $3\frac{1}{2}$, $3\frac{5}{8}$, $3\frac{3}{4}$, $3\frac{7}{8}$, 4, $4\frac{1}{8}$, $4\frac{1}{4}$, $4\frac{3}{8}$, $4\frac{1}{2}$, $4\frac{5}{8}$, $4\frac{3}{4}$, $4\frac{7}{8}$, 5, $5\frac{1}{8}$, $5\frac{1}{4}$, $5\frac{3}{8}$, $5\frac{1}{2}$, $5\frac{5}{8}$, $5\frac{3}{4}$, $5\frac{7}{8}$, 6, $6\frac{1}{8}$, $6\frac{1}{4}$, $6\frac{3}{8}$, $6\frac{1}{2}$, $6\frac{5}{8}$, $6\frac{3}{4}$, $6\frac{7}{8}$, 7, $7\frac{1}{8}$, $7\frac{1}{4}$, $7\frac{3}{8}$, $7\frac{1}{2}$, $7\frac{5}{8}$, $7\frac{3}{4}$, $7\frac{7}{8}$, 8, $8\frac{1}{8}$, $8\frac{1}{4}$, $8\frac{3}{8}$, $8\frac{1}{2}$, $8\frac{5}{8}$, $8\frac{3}{4}$, $8\frac{7}{8}$, 9, $9\frac{1}{8}$, $9\frac{1}{4}$, $9\frac{3}{8}$, $9\frac{1}{2}$, $9\frac{5}{8}$, $9\frac{3}{4}$, $9\frac{7}{8}$, 10, $10\frac{1}{8}$, $10\frac{1}{4}$, $10\frac{3}{8}$, $10\frac{1}{2}$, $10\frac{5}{8}$, $10\frac{3}{4}$, $10\frac{7}{8}$, 11, $11\frac{1}{8}$, $11\frac{1}{4}$, $11\frac{3}{8}$, $11\frac{1}{2}$, $11\frac{5}{8}$, $11\frac{3}{4}$, $11\frac{7}{8}$, 12, $12\frac{1}{8}$, $12\frac{1}{4}$, $12\frac{3}{8}$, $12\frac{1}{2}$, $12\frac{5}{8}$, $12\frac{3}{4}$, $12\frac{7}{8}$, 13, $13\frac{1}{8}$, $13\frac{1}{4}$, $13\frac{3}{8}$, $13\frac{1}{2}$, $13\frac{5}{8}$, $13\frac{3}{4}$, $13\frac{7}{8}$, 14, $14\frac{1}{8}$, $14\frac{1}{4}$, $14\frac{3}{8}$, $14\frac{1}{2}$, $14\frac{5}{8}$, $14\frac{3}{4}$, $14\frac{7}{8}$, 15, $15\frac{1}{8}$, $15\frac{1}{4}$, $15\frac{3}{8}$, $15\frac{1}{2}$, $15\frac{5}{8}$, $15\frac{3}{4}$, $15\frac{7}{8}$, 16, $16\frac{1}{8}$, $16\frac{1}{4}$, $16\frac{3}{8}$, $16\frac{1}{2}$, $16\frac{5}{8}$, $16\frac{3}{4}$, $16\frac{7}{8}$, 17, $17\frac{1}{8}$, $17\frac{1}{4}$, $17\frac{3}{8}$, $17\frac{1}{2}$, $17\frac{5}{8}$, $17\frac{3}{4}$, $17\frac{7}{8}$, 18, $18\frac{1}{8}$, $18\frac{1}{4}$, $18\frac{3}{8}$, $18\frac{1}{2}$, $18\frac{5}{8}$, $18\frac{3}{4}$, $18\frac{7}{8}$, 19, $19\frac{1}{8}$, $19\frac{1}{4}$, $19\frac{3}{8}$, $19\frac{1}{2}$, $19\frac{5}{8}$, $19\frac{3}{4}$, $19\frac{7}{8}$, 20, $20\frac{1}{8}$, $20\frac{1}{4}$, $20\frac{3}{8}$, $20\frac{1}{2}$, $20\frac{5}{8}$, $20\frac{3}{4}$, $20\frac{7}{8}$, 21, $21\frac{1}{8}$, $21\frac{1}{4}$, $21\frac{3}{8}$, $21\frac{1}{2}$, $21\frac{5}{8}$, $21\frac{3}{4}$, $21\frac{7}{8}$, 22, $22\frac{1}{8}$, $22\frac{1}{4}$, $22\frac{3}{8}$, $22\frac{1}{2}$, $22\frac{5}{8}$, $22\frac{3}{4}$, $22\frac{7}{8}$, 23, $23\frac{1}{8}$, $23\frac{1}{4}$, $23\frac{3}{8}$, $23\frac{1}{2}$, $23\frac{5}{8}$, $23\frac{3}{4}$, $23\frac{7}{8}$, 24, $24\frac{1}{8}$, $24\frac{1}{4}$, $24\frac{3}{8}$, $24\frac{1}{2}$, $24\frac{5}{8}$, $24\frac{3}{4}$, $24\frac{7}{8}$, 25, $25\frac{1}{8}$, $25\frac{1}{4}$, $25\frac{3}{8}$, $25\frac{1}{2}$, $25\frac{5}{8}$, $25\frac{3}{4}$, $25\frac{7}{8}$, 26, $26\frac{1}{8}$, $26\frac{1}{4}$, $26\frac{3}{8}$, $26\frac{1}{2}$, $26\frac{5}{8}$, $26\frac{3}{4}$, $26\frac{7}{8}$, 27, $27\frac{1}{8}$, $27\frac{1}{4}$, $27\frac{3}{8}$, $27\frac{1}{2}$, $27\frac{5}{8}$, $27\frac{3}{4}$, $27\frac{7}{8}$, 28, $28\frac{1}{8}$, $28\frac{1}{4}$, $28\frac{3}{8}$, $28\frac{1}{2}$, $28\frac{5}{8}$, $28\frac{3}{4}$, $28\frac{7}{8}$, 29, $29\frac{1}{8}$, $29\frac{1}{4}$, $29\frac{3}{8}$, $29\frac{1}{2}$, $29\frac{5}{8}$, $29\frac{3}{4}$, $29\frac{7}{8}$, 30, $30\frac{1}{8}$, $30\frac{1}{4}$, $30\frac{3}{8}$, $30\frac{1}{2}$, $30\frac{5}{8}$, $30\frac{3}{4}$, $30\frac{7}{8}$, 31, $31\frac{1}{8}$, $31\frac{1}{4}$, $31\frac{3}{8}$, $31\frac{1}{2}$, $31\frac{5}{8}$, $31\frac{3}{4}$, $31\frac{7}{8}$, 32, $32\frac{1}{8}$, $32\frac{1}{4}$, $32\frac{3}{8}$, $32\frac{1}{2}$, $32\frac{5}{8}$, $32\frac{3}{4}$, $32\frac{7}{8}$

No. 0 Home Workshop Set

For $\frac{1}{16}$, $\frac{3}{32}$ and $\frac{1}{8}$ -inch keyways. Cuts 15 different keyways.

Broach Inches	Bushings (and Hole Sizes) Inches
$\frac{1}{16}$ -A	$\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1, $1\frac{1}{8}$, $1\frac{1}{4}$, $1\frac{3}{8}$, $1\frac{1}{2}$, $1\frac{5}{8}$, $1\frac{3}{4}$, $1\frac{7}{8}$, 2
$\frac{3}{32}$ -A	
$\frac{1}{8}$ -A	

No. 4, Complete...each \$88.00 No. 4A, Complete each \$88.00 No. 5, Complete each \$150.00 No. 0, Complete...each \$27.25

Minute Man Keyway Broaches



Individually packed.

Broach	Broach and Shim Each	Keyway Width Inches	Broach Dimensions Inches
A	\$7.15	$\frac{1}{16}$	$\frac{1}{8} \times 5$
A	7.15	$\frac{3}{32}$	$\frac{1}{8} \times 5$
A	7.15	$\frac{1}{8}$	$\frac{1}{8} \times 5$
B	8.10	$\frac{3}{32}$	$\frac{3}{16} \times 6\frac{1}{2}$
B	8.10	$\frac{1}{8}$	$\frac{3}{16} \times 6\frac{1}{2}$
B	8.10	$\frac{5}{32}$	$\frac{3}{16} \times 6\frac{1}{2}$
B	8.10	$\frac{3}{16}$	$\frac{3}{16} \times 6\frac{1}{2}$
C	10.35	$\frac{3}{16}$	$\frac{3}{8} \times 11\frac{3}{4}$
C	10.35	$\frac{1}{4}$	$\frac{3}{8} \times 11\frac{3}{4}$
C	10.35	$\frac{5}{16}$	$\frac{3}{8} \times 11\frac{3}{4}$
C	10.35	$\frac{3}{8}$	$\frac{3}{8} \times 11\frac{3}{4}$
D	13.75	$\frac{5}{16}$	$\frac{9}{16} \times 11\frac{3}{4}$
D	13.75	$\frac{3}{8}$	$\frac{9}{16} \times 11\frac{3}{4}$
D	13.75	$\frac{7}{16}$	$\frac{9}{16} \times 11\frac{3}{4}$
D	13.75	$\frac{1}{2}$	$\frac{9}{16} \times 11\frac{3}{4}$
E	22.90	$\frac{5}{8}$	$\frac{3}{4} \times 14$
E	22.90	$\frac{3}{4}$	$\frac{3}{4} \times 14$
F	45.80	$\frac{7}{8}$	1x18
F	45.80	1	1x18

*High Speed steel broaches are available. Prices upon application. Extra shims for A, B and C Broaches, 40 cents each; for D and E broaches, 50 cents each. Extension shanks for D and E broaches, 75 cents each.

Broaches and shims should be ordered by size and letter.

Note: Broaches are furnished with a 7° rake for use on iron or steel. When broaching softer metals it is advisable to remove the rake and stone a slight flat on the crests of the teeth at the cutting edge, to prevent biting or hogging in. This digging action can sometimes be eliminated without changing the rake by releasing the pressure or spring on the broach just before passing the finishing teeth through the work.

Minute Man Keyway Bushings



Bushing letters indicate use for corresponding keyway broaches.

Bushings A		Bushings B		Bushings C	
Diam. In.	Collared Each	Diam. In.	Collared Each	Diam. In.	Collared Each
$\frac{1}{4}$	\$1.10	$\frac{1}{2}$	\$1.00	$\frac{3}{4}$	\$1.35
$\frac{5}{16}$	1.10	$\frac{9}{16}$	1.00	$\frac{13}{16}$	1.35
$\frac{3}{8}$	1.10	$\frac{5}{8}$	1.00	$\frac{7}{8}$	1.35
$\frac{7}{16}$	1.10	$\frac{11}{16}$	1.00	$\frac{15}{16}$	1.35
$\frac{1}{2}$	1.10	$\frac{3}{4}$	1.00	1	1.35
...	...	$\frac{13}{16}$	1.00	$\frac{11}{16}$	1.35
...	...	$\frac{7}{8}$	1.00	$\frac{1}{8}$	1.35
...	...	...	...	$\frac{13}{16}$	1.35
...	...	...	...	$\frac{11}{4}$	1.85
...	...	...	...	$\frac{15}{16}$	1.85
...	...	...	...	$\frac{13}{8}$	1.85
...	...	...	...	$\frac{17}{16}$	1.85
...	...	...	...	$\frac{11}{2}$	1.85
...	...	...	...	$\frac{19}{16}$	1.85
Bushings D, Plain		Bushings E, Plain		Bushings F, Plain	
Diam. In.	Each	Diam. In.	Each	Diam. In.	Each
$\frac{17}{16}$	\$2.20	$\frac{21}{4}$	\$4.75	$\frac{25}{16}$	\$4.75
$\frac{11}{2}$	2.20	$\frac{25}{16}$	4.75	$\frac{23}{8}$	4.75
$\frac{19}{16}$	2.20	$\frac{23}{8}$	4.75	$\frac{27}{16}$	4.75
$\frac{15}{8}$	2.20	$\frac{27}{16}$	4.75	$\frac{21}{2}$	4.75
$\frac{111}{16}$	3.10	$\frac{21}{2}$	4.75	$\frac{29}{16}$	4.75
$\frac{13}{4}$	3.10	$\frac{29}{16}$	4.75	$\frac{25}{8}$	4.75
$\frac{113}{16}$	3.10	$\frac{25}{8}$	4.75	$\frac{211}{16}$	4.75
$\frac{17}{8}$	3.10	$\frac{211}{16}$	4.75	$\frac{23}{4}$	4.75
$\frac{115}{16}$	3.30	$\frac{23}{4}$	4.75	$\frac{213}{16}$	4.75
2	3.30	$\frac{213}{16}$	4.75	$\frac{27}{8}$	4.75
$\frac{21}{16}$	3.30	$\frac{27}{8}$	4.75	$\frac{215}{16}$	4.75
$\frac{23}{8}$	3.30	$\frac{215}{16}$	4.75	3	4.75
$\frac{23}{16}$	3.30	3	4.75		

When ordering, specify letter of keyway broach with which bushing will be used.

Precision Brand Solid Shim Stock



Contains single rolls of 600 square inches 6x100-inch shim stock. Handy dispenser carton is for toolroom use where a few inches or a few feet may be sheared as needed while remainder is restocked for future requirements.

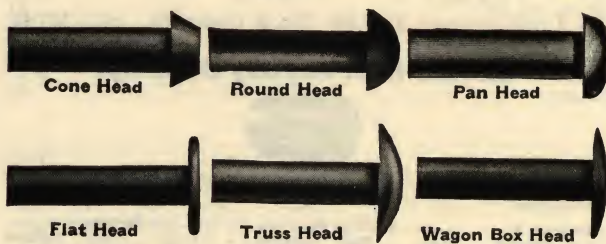
Brass			Steel		
No.	Each	Thick. In.	No.	Each	Thick. In.
S-1	\$2.75	.0010	A-1	\$4.40	.0010
S-1X	2.75	.0015	A-1X	3.30 *	.0015
S-2	2.59	.0020	A-2	2.20 *	.0020
S-3	2.59	.0030	A-2X	2.20	.0025
S-4	2.75	.0040	A-3	2.20 *	.0030
S-5	2.75	.0050	A-3X	2.20	.0035
S-6	2.86	.0060	A-4	2.20 *	.0040
S-7	2.97	.0070	A-5	2.20 *	.0050
S-8	3.08	.0080	A-6	2.37 *	.0060
S-9	3.19	.0090	A-7	2.37 *	.0070
S-10	3.30	.0100	A-8	2.48 *	.0080
S-12	4.13	.0120			
S-15	5.06	.0150			
S-20	6.05	.0200			
S-25	7.70	.0250			
S-31	9.35	.0310			

Brass available in 6-inch width only.
*Also available in size 12x120 inches; prices double the 6-inch width. Indicate by AA prefix.

Small Rivets

Solid Low Carbon Basic Steel

Standard Heads



Available in diameters $\frac{3}{32}$ through $\frac{7}{16}$ inch in lengths from $\frac{1}{8}$ through 6 inches. Furnished in 200-lb. kegs.

Tubular Brass Rivets

Style No. 3				
Std. No.	Lgth. In.	Per Box of 1000	Per Ctn. 100x12	Per Box of 100
3-3	$\frac{3}{16}$	\$5.00	\$6.95	\$5.58
3-4	$\frac{1}{2}$	5.40	7.40	.62
3-5	$\frac{5}{8}$	5.85	7.95	.67
3-6	$\frac{3}{4}$	6.20	8.35	.70
3-8	$\frac{7}{8}$	7.10	9.55	.80
Style No. 7				
7-4	$\frac{1}{2}$	\$5.95	\$8.30	\$7.70
7-5	$\frac{5}{8}$	6.80	9.30	.76
7-6	$\frac{3}{4}$	7.65	10.35	.87
7-7	$\frac{7}{8}$	8.50	11.35	.95
7-8	$\frac{1}{2}$	9.05	12.00	1.01
7-9	$\frac{5}{8}$	10.15	13.35	1.12
7-10	$\frac{3}{4}$	11.05	14.90	1.25
7-12	$\frac{7}{8}$	12.75	16.95	1.42
7-14	$\frac{1}{2}$	14.40	18.95	1.58
7-16	$\frac{3}{4}$	16.10	21.00	1.75
Style No. 14				
14-4	$\frac{1}{2}$	\$4.10	\$5.85	\$4.48
14-5	$\frac{5}{8}$	4.50	6.30	.53
14-6	$\frac{3}{4}$	4.90	6.80	.57
14-7	$\frac{7}{8}$	5.30	7.50	.63
14-8	$\frac{1}{2}$	5.70	8.00	.67
14-10	$\frac{3}{4}$	6.70	9.20	.77
14-12	$\frac{7}{8}$	7.55	10.15	.85

Tinners' and Coopers' Black Rivets



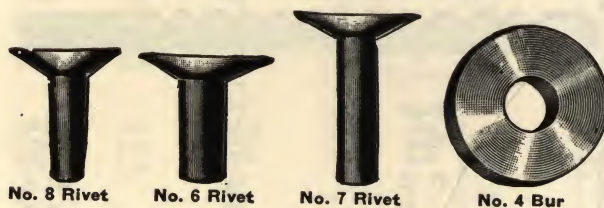
Size		Flat Head Not Pointed		Countersunk Head		Rivet Gage B.W.G.	Nominal Diameter	Length Under Head
Weight Per 1000	per 1000	Paper Pkgs.	Full Kegs	Paper Pkgs.	Full Kegs			
6 Oz.	\$.70	\$.60	.....	.....	14	.083	$\frac{1}{8}$
8 Oz.	.70	.60	.....	.....	13½	.089	$\frac{5}{32}$
10 Oz.	.70	.60	.....	.....	13	.095	$\frac{11}{64}$
12 Oz.	.80	.70	.....	.....	12¼	.105	$\frac{3}{16}$
14 Oz.	.80	.70	.....	.....	12	.109	$\frac{5}{16}$
1 Lb.	.80	.70	\$.80	\$.65	11¾	.112	$\frac{3}{8}$	
1¼ Lb.	.80	.70	.80	.65	11	.120	$\frac{7}{16}$	
1½ Lb.	1.00	.80	1.00	.80	10¼	.130	$\frac{15}{64}$	
1¾ Lb.	1.00	.80	1.00	.80	10	.134	$\frac{1}{4}$	
2 Lb.	1.00	.85	1.00	.80	9¼	.144	$\frac{17}{64}$	
2½ Lb.	1.10	.90	.....	.....	9	.148	$\frac{9}{16}$
3 Lb.	1.20	1.00	1.20	.95	8¼	.161	$\frac{5}{8}$	
3½ Lb.	1.40	1.10	.....	.....	8	.165	$\frac{21}{64}$
4 Lb.	1.50	1.25	1.40	1.10	7¼	.176	$\frac{11}{32}$	
5 Lb.	1.60	1.30	1.60	1.25	6¾	.186	$\frac{3}{8}$	
6 Lb.	2.10	1.70	2.10	1.70	6	.203	$\frac{25}{64}$	
7 Lb.	2.40	1.90	2.50	1.95	5	.220	$\frac{13}{32}$	
8 Lb.	3.00	2.40	3.00	2.45	4¾	.225	$\frac{7}{16}$	
9 Lb.	3.20	2.60	3.10	2.45	4	.238	$\frac{29}{64}$	
10 Lb.	3.30	2.60	3.20	2.45	4	.238	$\frac{15}{32}$	
12 Lb.	3.70	3.00	4.15	3.20	3	.259	$\frac{1}{2}$	
14 Lb.	4.70	3.80	4.15	3.20	2	.284	$\frac{33}{64}$	
16 Lb.	6.00	5.00	4.15	3.20	1	.300	$\frac{17}{32}$	
18 Lb.	7.50	6.35	4.50	3.55	11/32	.343	$\frac{19}{32}$	
5 D	.....	.....	5.50	4.25	.....	*.174	$\frac{3}{8}$
6 D	.....	.....	7.55	6.05	.....	†.197	$\frac{19}{32}$

*Minimum; maximum .183.

†Minimum; maximum .206.

When tinned rivets are ordered, hot tinned are furnished. When tin-plated rivets are ordered cold tinned are furnished. Prices on request.

Copper Belt Rivets and Burs



Net Extras to be added to Base Price per Pound

Gage No.	UNIFORM LENGTHS				ASSORTED LENGTHS				Burs	Burs
	1-Lb. Bulk	$\frac{1}{2}$ -Lb. Boxes	$\frac{1}{4}$ -Lb. Boxes	$\frac{1}{8}$ -Lb. Boxes	1-Lb. Bulk	$\frac{1}{2}$ -Lb. Boxes	$\frac{1}{4}$ -Lb. Boxes	$\frac{1}{8}$ -Lb. Boxes		
3 to 9	Base	\$.03	\$.06	\$.12	\$.03	\$.06	\$.12	Base	\$.03	
10		.02	.05	.08	.05	.08	.14	.02	.05	
11-12		.04	.07	.10	.07	.10	.16	.04	.07	
13-14-15		.16	.19	.22	.19	.22	.28	.16	.19	

Copper Belt Rivets and Burs

Number to the Pound

RIVETS, ONLY										
Length Inches	5	6	7	8	9	10	11	12	13	14
$\frac{1}{4}$	...	...	...	255	313	386	455	525	650	871
$\frac{3}{8}$	...	...	...	206	260	302	350	412	510	702
$\frac{1}{2}$	55	93	143	180	208	256	290	330	420	579
$\frac{5}{8}$	50	83	127	150	183	216	250	287	360	490
$\frac{3}{4}$	47	73	112	133	160	192	215	244	300	435
$\frac{7}{8}$	43	64	99	120	143	165	190	212	275	377
1	39	57	89	105	129	147	170	191	250	336
1 $\frac{1}{8}$	37	54	80	94	115	136	164	174	...	...
1 $\frac{1}{4}$	35	49	74	86	108	121	140	160	...	...
1 $\frac{3}{8}$	33	47	68	81	98	116	132	156	...	...
1 $\frac{1}{2}$	30	42	62	75	93	104	125	136	...	...
Burs	102	184	380	465	580	750	950	1240	1350	2050

Coppered Steel Split Rivets

Body, $\frac{3}{16}$ -inch diameter. Head, $\frac{5}{16}$ -inch diameter.



Size In.	Cartons 12 Boxes of 50 Each	Boxes of 1000 Each	Size In.	Cartons 12 Boxes of 50 Each	Boxes of 1000 Each
$\frac{4}{16}$	\$1.69	\$1.98	$\frac{8}{16}$	\$1.99	\$2.52
$\frac{5}{16}$	1.73	2.04	$\frac{10}{16}$	2.20	2.88
$\frac{6}{16}$	1.83	2.16	$\frac{12}{16}$	2.53	3.30
$\frac{7}{16}$	1.90	2.34	....	....	....

Common Cut Nails



Size	Length In.	Size	Length In.
2d.....	1	12d.....	$3\frac{1}{4}$
3d.....	$1\frac{1}{4}$	16d.....	$3\frac{1}{2}$
$3\frac{1}{2}$ d.....	$1\frac{3}{8}$	20d.....	4
4d.....	$1\frac{1}{2}$	30d.....	$4\frac{1}{2}$
$4\frac{1}{2}$ d.....	$1\frac{5}{8}$	40d.....	5
5d.....	$1\frac{3}{4}$	50d.....	$5\frac{1}{2}$
6d.....	2	60d.....	6
7d.....	$2\frac{1}{4}$	70d.....	$6\frac{1}{2}$
8d.....	$2\frac{1}{2}$	80d.....	7
9d.....	$2\frac{3}{4}$	90d.....	$7\frac{1}{2}$
10d.....	3	100d.....	8

Hardened Cut Nails For Hardwood Floors

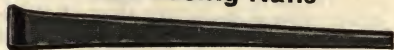


The use of these nails in the application of hardwood floors effects ultimate economy by saving carpenters' time and saving of nails.

In construction of hardwood floors, every nail that bends must be extracted. This nail bites into the wood under a slight blow and will not bend nor break under proper usage.

Size	Lgth. In.	Size	Lgth. In.	Size	Lgth. In.
3d.....	$1\frac{1}{4}$	8d.....	$2\frac{1}{2}$	20d.....	4
4d.....	$1\frac{1}{2}$	9d.....	$2\frac{3}{4}$	30d.....	$4\frac{1}{2}$
5d.....	$1\frac{3}{4}$	10d.....	3	40d.....	5
6d.....	2	12d.....	$3\frac{1}{4}$	....	....
7d.....	$2\frac{1}{4}$	16d.....	$3\frac{1}{2}$	....	....

Cut Casing Nails



Size	Lgth., In.	Size	Lgth., In.	Size	Lgth., In.
3d.....	$1\frac{1}{4}$	8d.....	$2\frac{1}{2}$	20d.....	4
4d.....	$1\frac{1}{2}$	9d.....	$2\frac{3}{4}$	30d.....	$4\frac{1}{2}$
5d.....	$1\frac{3}{4}$	10d.....	3	40d.....	5
6d.....	2	12d.....	$3\frac{1}{4}$	....	....
7d.....	$2\frac{1}{4}$	16d.....	$3\frac{1}{2}$	....	....

USS American Casing Nails



Regular kuphed as specified.

Size.....	4d	6d	8d	10d	16d
Length.....inches	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$
Gage No.....	14	$12\frac{1}{2}$	$11\frac{1}{2}$	$10\frac{1}{2}$	10
Approx. No. to Pound.....	489	244	147	96	73

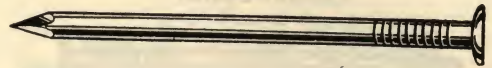
USS American Finishing Nails



Made with Kuphed heads only.

Size.....	3d	4d	6d	8d	10d
Length.....inches	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Gage No.....	$15\frac{1}{2}$	15	13	$12\frac{1}{2}$	$11\frac{1}{2}$
Approx. No. to Lb.....	880	630	288	196	124

USS American Common Nails

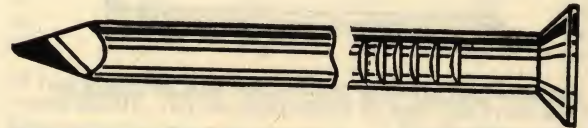


Size	Lgth. In.	Gage No.	Diam. Head In.	Approx. No. to Lb.	Size	Lgth. In.	Gage No.	Diam. Head In.	Approx. No. to Lb.
2d	1	15	$\frac{11}{64}$	847	10d	3	9	$\frac{5}{16}$	66
*3d	$1\frac{1}{4}$	14	$\frac{13}{64}$	543	12d	$3\frac{1}{4}$	9	$\frac{5}{16}$	61
4d	$1\frac{1}{2}$	$12\frac{1}{2}$	$\frac{1}{4}$	294	16d	$3\frac{1}{2}$	8	$\frac{11}{32}$	47
5d	$1\frac{3}{4}$	$12\frac{1}{2}$	$\frac{1}{4}$	254	20d	4	6	$\frac{13}{32}$	29
6d	2	$11\frac{1}{2}$	$\frac{17}{64}$	167	30d	$4\frac{1}{2}$	5	$\frac{7}{16}$	22
7d	$2\frac{1}{4}$	$11\frac{1}{2}$	$\frac{17}{64}$	150	40d	5	4	$\frac{15}{32}$	17
8d	$2\frac{1}{2}$	$10\frac{1}{4}$	$\frac{9}{32}$	101	50d	$5\frac{1}{2}$	3	$\frac{1}{2}$	13
9d	$2\frac{3}{4}$	$10\frac{1}{4}$	$\frac{9}{32}$	92	60d	6	2	$\frac{17}{32}$	10

* $\frac{13}{64}$ -inch head is standard but $\frac{1}{4}$ -inch head also furnished at extra cost.

USS American Round Wire Spikes

Flat Countersunk Head, Diamond Point



Degree of countersunk, 123.

Length.....inches	7	7	8	8	8	10
Gage.....inches	$\frac{5}{16}$	1	$\frac{5}{16}$	$\frac{3}{8}$	1	$\frac{3}{8}$
Diameter Head.....inches	$\frac{5}{8}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{9}{16}$	$\frac{3}{4}$
Approx. No. to Pound.....	6.8	...	...	4.1	...	3.3

Oval countersunk head, chisel point wire spikes also can be furnished.

USS American Smooth Box Nails



Size	Length Inches	Gage No.	Approx. No. to Lb.
3d	$1\frac{1}{4}$	$14\frac{1}{2}$	588
4d	$1\frac{1}{2}$	14	453
5d	$1\frac{3}{4}$	14	389
6d	2	$12\frac{1}{2}$	225
7d	$2\frac{1}{4}$	$12\frac{1}{2}$	200
8d	$2\frac{1}{2}$	$11\frac{1}{2}$	136
10d	3	$10\frac{1}{2}$	90
16d	$3\frac{1}{2}$	10	69
20d	4	9	50

Cement Coated Box Nails



Box nails being of lighter gage than common or countersunk nails are economical and effective substitutes in those instances where a greater count is preferable to more strength.

Especially adapted for use in automatic nailing machines.

Size.....	3d	4d	$4\frac{1}{2}$ d	5d	6d	7d	8d	9d	10d
Lgth.....in.	$1\frac{1}{8}$	$1\frac{3}{8}$	$1\frac{1}{2}$	$1\frac{5}{8}$	$1\frac{7}{8}$	$2\frac{1}{8}$	$2\frac{3}{8}$	$2\frac{5}{8}$	$2\frac{7}{8}$
Gage No.....	16	$15\frac{1}{2}$	15	15	$13\frac{1}{2}$	$13\frac{1}{2}$	$12\frac{1}{2}$	$12\frac{1}{2}$	$11\frac{1}{2}$
Approx. No.									
per Lb.....	950	710	578	536	306	268	186	167	118

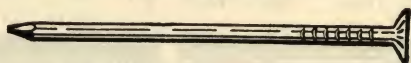
USS American Coolers Cement-Coated



Satisfactory for hand driving in the softer woods, but especially designed for machine driving in boxes, crates, or other shipping packages.

Size.....	3d	4d	5d	6d	7d	8d	10d
Length.....	1 $\frac{1}{8}$	1 $\frac{3}{8}$	1 $\frac{5}{8}$	1 $\frac{7}{8}$	2 $\frac{1}{8}$	2 $\frac{3}{8}$	2 $\frac{7}{8}$
Gage No.....	15 $\frac{1}{2}$	14	13 $\frac{1}{2}$	13	12 $\frac{1}{2}$	11 $\frac{1}{2}$	11
Approx. No. to Lb.	838	493	366	278	212	144	105

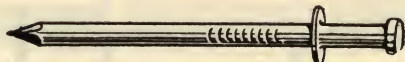
USS American Sinkers Cement Coated



For use in all styles of wooden shipping packages and for all the every day uses to which nails are put. Heads cannot break or pull off.

Size	Lgth. In.	Ga. No.	Approx. No. to Pound	Size	Lgth. In.	Ga. No.	Approx. No. to Pound
3d	1 $\frac{1}{8}$	15 $\frac{1}{2}$	923	12d	3 $\frac{1}{8}$	10	81.4
4d	1 $\frac{3}{8}$	14	527	16d	3 $\frac{1}{4}$	9	64.3
5d	1 $\frac{5}{8}$	13 $\frac{1}{2}$	387	20d	3 $\frac{3}{4}$	7	39.6
6d	1 $\frac{7}{8}$	13	293	30d	4 $\frac{1}{4}$	6	29.6
7d	2 $\frac{1}{8}$	12 $\frac{1}{2}$	223	40d	4 $\frac{3}{4}$	5	22.7
8d	2 $\frac{3}{8}$	11 $\frac{1}{2}$	153	60d	5 $\frac{3}{4}$	3	13.5
10d	2 $\frac{7}{8}$	11	111	...	...	...	...

USS American Duplex Head Nails

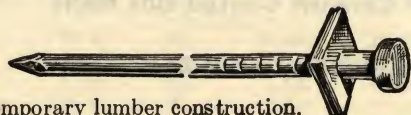


For all scaffolding, foundation, column, and other concrete forms and all temporary lumber constructions.

Made with sharp point and special heavy double head for easy driving.

Size.....	6d	8d	10d	16d	20d
Gage No.....	11 $\frac{1}{2}$	10 $\frac{1}{4}$	9	8	6
Distance between Heads.inches	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{3}{8}$
Length under Lower Head..in.	1 $\frac{3}{4}$	2 $\frac{1}{4}$	2 $\frac{3}{4}$	3	3 $\frac{1}{2}$
Approx. No. to Pound.....	156	90	59	45	28

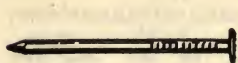
Economy Double Headed Nails



For Temporary lumber construction.

Size.....	6d	8d	10d	16d	20d	30d
Length.....in.	1 $\frac{13}{16}$	2 $\frac{5}{16}$	2 $\frac{13}{16}$	3 $\frac{5}{16}$	3 $\frac{13}{16}$	4 $\frac{5}{16}$
Per Cwt.....	...	...	...	...	...	...

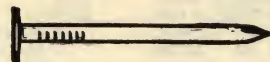
USS American Sterilized Blued Lath Nails



Lathers carry nails in mouth while at work; it is therefore necessary to have nails sterilized.

Size.....	2d	3d	3d Light
Length.....inches	1	1 $\frac{1}{8}$	1 $\frac{1}{8}$
Gage No.....	16 $\frac{1}{2}$	15	16
Approx. No. to Lb.....	1280	757	984

USS American Shingle Nails Bright



Flat head, diamond point.

Made of steel, bright or hot galvanized.

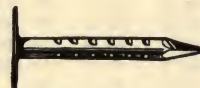
Be sure to specify which style is wanted.

No.....	3d	3 $\frac{1}{2}$ d	4d	5d
Length.....inches	1 $\frac{1}{4}$	1 $\frac{3}{8}$	1 $\frac{1}{2}$	1 $\frac{3}{4}$
Gage No.....	13	12 $\frac{1}{2}$	12	12
Diameter Head.....inches	$\frac{1}{4}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{9}{32}$
Approx. No. per Pound.....	434	331	271	233

Prices for galvanizing upon application.

USS American Standard Large Head Barbed Roofing Nails

Diamond Points



Furnished in $\frac{7}{8}$, 1, 1 $\frac{1}{4}$, 1 $\frac{1}{2}$, 1 $\frac{3}{4}$, and 2-inch lengths.

Head diameters: $\frac{15}{32}$ inch for the No. 10 gage, $\frac{1}{16}$ inch for the No. 11 gage and $\frac{3}{8}$ inch for the No. 12 gage.

Bright or hot galvanized.

Subject to charge for galvanizing.

USS American Ideal Roofing Nails

No. 11 Gage— $\frac{1}{2}$ -Inch Head



For all kinds of smooth, grit-surfaced and asbestos roll roofings, and asphalt and asbestos shingles.

Large flat checked head. Long diamond point. Shank is not too thick to split the wood nor too thin to break and rust out quickly.

Bright finish. Can be furnished hot galvanized, zinc coated at an extra charge.

Length.....inches	$\frac{7}{8}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	1 $\frac{3}{4}$
Count per Pound.....	364	327	272	233	204

USS American Special Blued Plaster Base Nails



Large heads, so the nails will have ample holding power and cover sufficient surface of the board to prevent pulling through. Long diamond point permits nails to cut through boards readily without damage to composition plaster.

Blued so they can be fed from the mouth without danger to health. Bluing process makes the nails free from injurious substances or atmospheric conditions.

Packed in fiber containers.

	—No. 13 Gage—		No. 12 Gage
Length.....inches	1 $\frac{1}{8}$	1 $\frac{1}{4}$	1 $\frac{1}{4}$
Size Head.....inches	$\frac{19}{64}$	$\frac{19}{64}$	$\frac{3}{8}$
No. per Pound.....	473	425	327

U.S.S. Miscellaneous Wire Nails and Wire Brads

Effective February 5, 1940
Per Pound in 100-Pound Kegs

3/16-Inch Flat Head Nails			3/8-Inch Flat Head Nails (Cont.)			1 1/4 & 1 1/2-In. Flat Head Nails (Cont.)		
Ga.	Nails	Brads	Ga.	Nails	Brads	Ga.	Nails	Brads
20	\$1.54	\$1.78	18	\$.54	\$.57	13	\$.32	\$.35
21	2.11	2.41	19	.64	.69	14	.32	.35
22	2.69	3.08	20	.76	.81	15	.33	.36
23	3.35	3.93	21	.88	.95	16	.34	.37
24	3.59	4.36	22	1.14	1.21	17	.36	.39
3/4-Inch Flat Head Nails			3/4-Inch Flat Head Nails (Cont.)			1 1/2 & 1 3/4-In. Flat Head Nails (Cont.)		
19	\$1.10	\$1.20	13	\$.37	\$.40	12	\$.31	\$.34
20	1.32	1.44	14	.37	.40	13	.31	.34
21	1.66	1.82	15	.38	.41	14	.31	.34
22	2.06	2.27	16	.39	.42	15	.33	.36
23	2.60	2.87	17	.42	.45	16	.33	.36
24	3.36	3.70	18	.48	.52	17	.35	.38
3/8-Inch Flat Head Nails			3/8-Inch Flat Head Nails (Cont.)			1 3/4-In. Flat Head Nails (Cont.)		
18	\$.69	\$.76	19	.57	.62	12	\$.30	\$.33
19	.87	.95	20	.68	.73	13	.30	.33
20	1.07	1.15	21	.79	.84	14	.30	.33
21	1.26	1.36	3/4-Inch Flat Head Nails			15	.31	.34
22	1.76	1.89	13	\$.35	\$.38	16	.32	.35
23	1.96	2.13	14	.36	.39	17	.34	.37
24	2.16	2.38	15	.37	.40	2-Inch Flat Head Nails		
1/2-Inch Flat Head Nails			16	.38	.41	12	\$.30	\$.33
14	\$.39	\$.42	17	.40	.43	13	.30	.33
14	.41	.45	18	.45	.48	14	.30	.33
16	.46	.49	19	.55	.58	15	.31	.34
17	.51	.56	20	.63	.67	16	.31	.34
18	.61	.66	1 1/4-Inch Flat Head Nails			2 1/4-Inch Flat Head Nails		
19	.74	.81	12	\$.34	\$.37	12	\$.29	\$.32
20	.87	.97	13	.34	.37	13	.30	.33
21	1.04	1.14	14	.35	.38	14	.30	.33
22	1.41	1.54	15	.35	.38	15	.30	.33
23	1.51	1.67	16	.36	.39	16	.30	.33
3/8-Inch Flat Head Nails			17	.37	.40	17	.30	.33
13	\$.39	\$.42	18	.43	.46	2 1/2 & 3-Inch Flat Head Nails		
14	.39	.42	19	.52	.55	10	\$.28	\$.31
15	.41	.44	20	.61	.64	11	.28	.31
16	.46	.49	1 1/4 & 1 1/2-Inch Flat Head Nails			12	.28	.31
17	.48	.51	12	\$.32	\$.35	13	.29	.32

For intermediate gage use list price for same length in finer gage.

For intermediate length use list price for same gage in next shorter length.

Extras for Standard Packages

Furnished as standard practice unless otherwise specified.	
50-lb. Fiber Carton, for Shipping in Bulk... per 100 lb.	
25-lb. Fiber Carton, for Shipping in Bulk... per 100 lb.	
10-lb. Fiber Carton, for Shipping in Bulk... per 100 lb.	
5-lb. Fiber Carton, for Shipping in Bulk... per 100 lb.	
1-lb. Papers, 50 per Shipping Container... per 100 lb.	
1/2-lb. Papers, 100 per Shipping Container... per 100 lb.	
1/4-lb. Papers, 12 per Carton, 25 Cartons per Shipping Container... per 100 lb.	

Extras for Special Features to be Added to List Prices

For cement coating, barbing, annealing, bluing, for oval or cone head, special diameter flat heads, for stock stiffer than standard, or for other types of flat countersunk heads, add 3 cents per pound, checkered head add 1 cent per pound. No charge for blunt point.

Duck bill point or headless nails, prices upon application. Deep countersunk flat heads (of casing and flooring brad type), use list prices for brads.

Needle and Other Special Points and Pointless

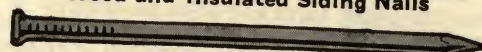
To arrive at net list for special points combined following extras according to length and gage, adding result to list for size, all of which is subject to discount.

Length.....inches	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	Longer than $\frac{5}{8}$
Per Pound.....	\$.26	.13	.06	.02	.02	.01
For intermediate length use extra for next shorter length.						
Gage... 10 to 18 & 17 Incl.	Gage					
	19	20	21	22	23	24 25 26
Per Pound...\$.	.01	.02	.03	.05	.06	.07 .08 .11 .14
For split gage use extra for next finer gage.						

Nichols Aluminum Nails

Etched Finish

Per 50-Pound Carton
Wood and Insulated Siding Nails



8d Wood Siding Nail—Casing Head



7d Wood Siding Nail—Sinker Head

Casing Nails—For applying wood siding.

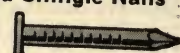
Sinker Nails—For applying wood and composition siding.

Wood Siding Nails—Casing Head					
Size	Extra Over Base	Length In.	Gage	Head In.	Approx. No. per Lb.
6d	\$4.90	1 7/8	12	9/64	604
7d	3.80	2 1/8	11 1/2	9/64	468
8d	2.60	2 3/8	10 1/2	5/32	319
Wood Siding Nails—Sinker Head					
6d	\$4.90	1 7/8	12	17/64	604
7d	3.80	2 1/8	12	17/64	468
8d	2.60	2 3/8	11	19/64	319
10d	1.35	2 7/8	8 1/2	5/16	185

Asbestos Siding, Rock Lath and Shingle Nails



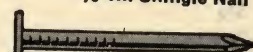
1 1/4-In. Asbestos Siding Nail



3/4-In. Shingle Nail



3d Shingle Nail



1 1/4-In. Rock Lath Nail

Asbestos Siding Nails—Face nail for applying asbestos siding shingles.

Rock Lath Nails—For applying sheet rock, etc.

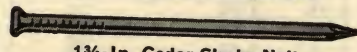
Shingle Nails—For use in applying wood shingles, aluminum barn batten and weather stripping; general sheet metal work.

Asbestos Siding Nails				
Length In.	Extra Over Base	Gage	Head In.	Approx. No. per Lb.
1 1/4	\$9.30	13	3/16	1230
1 3/4	6.64	12 1/2	3/16	720
Rock Lath Nails				
1 1/8	\$7.50	12 1/2	5/16	988
1 1/4	7.10	12 1/2	5/16	939
1 1/2	5.50	12	5/16	725
Standard Shingle Nails				
7/8	\$7.20	12 1/2	9/32	1313
1 1/4 (3d)	5.45	12 1/2	9/32	1009

Asbestos Shingle and Cedar Shake Nails



1 1/2-In. Asbestos Shingle Nail



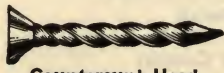
1 3/4-In. Cedar Shake Nail

Asbestos Shingle Nails—For applying slate and tile roofing. Also used as base nail for applying asbestos siding shingles.

Cedar Shake Nails—For applying cedar shakes.

Asbestos Shingle Nails				
Length In.	Extra Over Base	Gage	Head In.	Approx. No. per Lb.
1 1/4	\$7.00	11 1/2	5/16	785
1 1/2	5.90	11 1/2	5/16	650
1 3/4	4.85	11 1/2	5/16	544
Cedar Shake Nails				
1 1/4	\$10.00	13 1/2	5/32	1300
1 3/4	5.75	12 1/2	5/32	724

Helyx Drive Screws, Floor Screws and Concrete Screws



Countersunk Head



Flat Head



Button Head

Drives like a nail, turns and holds like a screw. Furnished with regular diamond (nail) point or non-split chisel point. Special points furnished at extra charge. Diamond points furnished unless otherwise specified. Heads

furnished are flat, button, countersunk and casing. Headless screws also furnished. Flat heads furnished if none specified. Finished bright or blued. Screw gages conform to standard specifications for equivalent wood screws. Decimal gage is overall diameter of thread. **When ordering**, specify quantity in pounds, length, screw gage, style of head, point and finish. To determine length of concrete screw, add 1 inch to thickness of material to be attached.

Per 100 Pounds in Bulk

LENGTH INCHES	SCREW GAGE																		Concrete Screws	
	No. 1		No. 2		No. 3		No. 4		No. 5		No. 6		No. 7		No. 8		No. 9			
	.072		.085		.099		.112		.125		.138		.151		.164		.177			
	DECIMAL GAGE, INCHES		.125		.138		.151		.164		.177		.190		.203		.216			
	WIRE GAGE		No. 11		No. 10		No. 9		No. 8		No. 7		No. 6		No. 5		No. 4			
	Per 100-Lb.	No. per 100-Lb.	Per 100-Lb.	No. per 100-Lb.	Per 100-Lb.	No. per 100-Lb.	Per 100-Lb.	No. per 100-Lb.	Per 100-Lb.	No. per 100-Lb.	Per 100-Lb.	No. per 100-Lb.	Per 100-Lb.	No. per 100-Lb.	Per 100-Lb.	No. per 100-Lb.	Per 100-Lb.	No. per 100-Lb.	Per 100-Lb.	No. per 100-Lb.
3/8	\$62.85	2190	\$51.00	1760	\$47.50	1250	\$43.95	1060	...	...	...	...	...	...	...	...	...	...	...	...
1/2	59.30	1960	47.50	1440	43.95	1000	39.20	860	\$35.65	670	\$30.95	540	...	...	...	...	...	...	...	...
5/8	55.75	1700	43.95	1210	40.40	930	36.85	700	32.10	590	27.40	485	...	...	...	...	...	...	...	...
3/4	53.25	1490	40.90	1025	37.90	850	35.55	610	30.85	510	26.10	415	\$25.55	380	\$24.55	290	\$23.65	240	...	...
7/8	50.90	1280	37.90	865	36.75	735	34.35	540	29.65	445	24.90	355	24.25	290	23.65	250	22.75	225	...	...
1	49.60	1160	36.60	770	35.45	680	33.10	465	28.35	360	24.25	290	23.35	250	22.75	208	22.15	190	...	...
1 1/8	48.45	1030	35.45	700	34.25	580	31.90	415	27.15	330	23.05	265	22.45	235	21.90	194	21.25	185	...	...
1 1/4	47.25	895	34.25	640	33.10	460	30.70	380	26.00	300	22.45	235	21.25	225	20.70	179	20.10	166	...	...
1 1/2	46.05	730	33.10	500	31.90	415	29.55	310	24.80	250	21.90	205	20.70	190	20.10	150	18.90	130	...	...
1 3/4	....	....	31.90	435	30.70	370	28.35	275	23.65	220	20.70	175	20.10	165	19.50	130	18.35	110	...	...
2	....	....	30.70	370	29.55	280	27.15	245	22.45	195	19.50	155	18.90	125	18.35	115	17.70	95	...	...
2 1/4	....	....	....	....	....	....	26.00	215	21.25	165	19.50	140	18.90	110	18.35	100	17.70	85	...	...
2 1/2	....	....	....	....	....	....	....	....	20.05	150	18.85	125	18.25	100	17.65	90	17.05	75	...	...
2 3/4	....	....	....	....	....	....	....	....	....	....	18.85	115	18.25	95	17.65	85	17.05	70	...	...
3	....	....	....	....	....	....	....	....	....	....	18.85	100	18.25	85	17.65	80	17.05	65	...	...
3 1/4	....	....	....	....	....	....	....	....	....	....	18.85	95	18.25	78	17.65	71	17.05	60	...	...
3 1/2	....	....	....	....	....	....	....	....	....	....	18.85	85	18.25	70	17.65	65	17.05	55	...	...
3 3/4	....	....	....	....	....	....	....	....	....	....	....	....	....	....	17.65	55	17.05	50	...	...
4	....	....	....	....	....	....	....	....	....	....	....	....	....	....	17.65	50	17.05	45	...	...

Packing Extras per 100 Lb.

1-Lb. Box.....	add \$2.50
5-Lb. Box.....	add 2.25
10-Lb. Box.....	add 2.00
25-Lb. Box.....	add 1.25

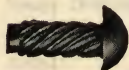
Quantity Extras per 100 Lb.

500 Lb. or More.....	Base
300 Lb. to 499 Lb.....	add \$3.00
100 Lb. to 299 Lb.....	add 4.00
Less than 100 Lb.....	add 5.00
Minimum Quantity....	10 Lb.

Net Extras for Finishes per 100 Pounds

Brass Plated.....	add \$5.00	Wash Tinned or Cop-	per 100 Pounds
Nickel Plated.....	add 7.25	pered.....	add \$4.00
Elec. Galv. or Zinc		Cement Coated.....	add 1.00
Plated.....	add 5.00	Enameled.....	add 6.00
Cadmium Plated.....	add 7.25		

Type U Metallic Drive Screws
Round Head—Hardened

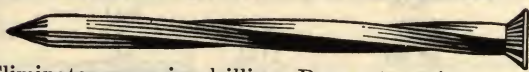


Plated finishes: cadmium, nickel, brass or zinc. Other finishes including chromium, bronze, etc., and other styles of heads made to order, prices on application.

Standard package, 1000 screws of a size.

Diam. In.	Lgth. In.	Plain Finish per 1000	Plated Finish per 1000	Diam. In.	Lgth. In.	Plain Finish per 1000	Plated Finish per 1000
00	1/8	\$1.80	\$1.95	6	3/8	\$2.45	\$2.70
	3/16	1.80	1.95		1/2	2.65	3.05
	1/4	1.80	1.95	7	5/8	2.55	2.90
0	1/8	1.80	1.95		3/8	2.55	2.90
	3/16	1.80	1.95		1/2	2.65	3.05
	1/4	1.80	1.95	8	3/8	2.85	3.20
2	1/8	1.80	1.95		1/2	3.00	3.40
	3/16	1.80	1.95		5/8	3.15	3.65
	1/4	1.80	1.95	10	3/8	3.30	3.90
4	1/8	2.05	2.20		1/2	3.45	4.10
	3/16	2.05	2.20		5/8	3.60	4.30
	1/4	2.15	2.30	12	1/2	4.25	5.15
	5/16	2.25	2.40		5/8	4.55	5.55
6	3/8	2.35	2.55		3/4	4.85	5.95
	3/16	2.35	2.55	14	1/2	5.10	6.30
	1/4	2.35	2.55		5/8	5.50	6.85
	5/16	2.45	2.70		3/4	5.90	7.40

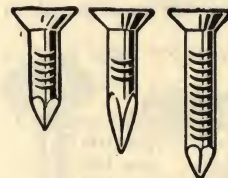
Helyx Concrete Screws
For Attaching Wood or Steel to Concrete



Eliminates expensive drilling. Does not require expansion bolts, plugs, lead anchors, etc. Drives like a nail and holds perfectly. Made in 1, 1 1/4 and 2 3/4-inch lengths; available with small head. **In ordering**, allow for 3/4 inch to enter concrete.

USS American Concrete Nails

For Roofers and Sheet Metal Workers



Designed for use in mortar, plaster, brick work, concrete, and masonry of all types. Used by tinnern for leader pipes and gutter drains. Used by roofers and sheet metal workers for anchoring signs, fastening beads, cornices and flashings, and attaching heat insulation to concrete decks.

The round shank gives a hard and fast grip. Will not work loose. Eliminates expansion bolts and nailing strips.

Oil-quench hardened. Made in lengths from 1/2 to 3 inches inclusive, and Nos. 5, 6, 7, 8, 9 and 10 gage.

Prices upon application.

Cut Bill Posters' or Railroad Tacks

Blued or Bright—In 100-Pound Kegs



Size No.....	10	8	6	4
Per 100 Lb.....	...	...	...	...
Length.....inches	5/8 & Longer	3/4	1/2	1/4

Flat Head Copper Tacks



Packed in 1/8-pound papers; 1 and 10-pound packages; 25-pound boxes; 100-pound kegs.

Prices upon application.

No. 3	No. 6						
No.....	3	6	10	14	18	22	
Length.....inches	3/8	1/2	5/8	3/4	7/8	1	

Brass Escutcheon Pins



In one-pound papers or bulk.

Wire Ga. No.	PER POUND LENGTH, INCHES				
	1/4	3/8	1/2	5/8	3/4
10	.....	\$.85	\$.80	\$.78	\$.76
11	.....	.95	.87	.84	.82
12	\$1.15	.98	.93	.90	.87
13	1.20	1.03	.98	.93	.90
14	1.25	1.05	1.00	.96	.92
15	1.35	1.15	1.07	1.00	.95
16	1.45	1.20	1.10	1.03	.99
17	1.60	1.40	1.25	1.17	1.10
18	1.90	1.50	1.35	1.27	1.20
19	2.15	1.75	1.60	1.45	1.35
20	2.35	2.10	1.95	1.80	1.65

Wire Ga. No.	PER POUND LENGTH, INCHES					
	7/8	1	1 1/4	1 1/2	1 3/4	2
10	\$.75	\$.74	\$.72	\$.71	\$.70	\$.69
11	.80	.78	.76	.75	.74	.73
12	.85	.83	.79	.77	.76	.75
13	.87	.84	.80	.78	.....	.....
14	.88	.85	.81	.80	.....	.....
15	.92	.90	.86	.84	.....	.....
16	.96	.94	.90	.88	.....	.....
17	1.04	1.00	.96	.94	.....	.....
18	1.15	1.10	.....	.....	.....	.....
19	1.30	1.25	.....	.....	.....	.....

Number of Brass Escutcheon Pins to the Pound

Wire Ga. No.	Deci- mal Size	LENGTH, INCHES											
		1/4	3/8	1/2	5/8	3/4	7/8	1	1 1/4	1 1/2	1 3/4	2	
10	.134	575	480	385	360	275	240	225	175	130	120	110	
11	.120	730	560	495	385	350	305	275	225	190	145	130	
12	.109	928	735	575	495	450	370	320	270	240	210	160	
13	.095	1310	1025	800	675	575	495	450	370	305	295	215	
14	.083	1825	1330	1100	865	735	675	595	480	400	350	305	
15	.072	2475	1650	1400	1184	1010	910	785	625	550	480	400	
16	.065	3000	2200	1750	1500	1215	1150	925	775	670	550	500	
17	.058	3875	3075	2400	1850	1630	1350	1200	1000	875	675	...	
18	.049	6300	4200	3300	2800	2250	2000	1760	1400	1145	1000	...	
19	.042	8000	6100	4775	3750	3200	2800	2400	2000	1335	...	...
20	.035	11680	8200	6350	5150	4585	3840	3200	...	...	...	...

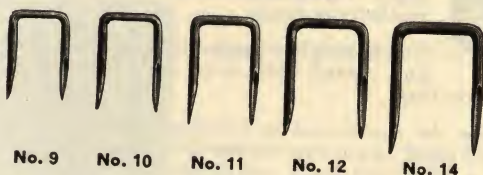
Upholsterers' or American Cut Tacks

Blued, Cold Tinned and Hot and Electro Galvanized

Size No.	Per 100 Pounds	In 100-Pound Kegs		Size No.	Per 100 Pounds	Length Inches
		Length Inches	5/8 & Longer			
10 & Lgr.	4	.....	7/16
8	3	.....	3/8
6	2 1/2	.....	5/16
				2	.....	1/4

Double Pointed Tacks

In 100-Pound Kegs



No. 9	No. 10	No. 11	No. 12	No. 14		
0.....	8	9	10	11	12	14
or Blue						

Bright or Blued	.....	.....	.....	.....	.....	.....
... per 100 lb.	.....	.....	.....	.....	.....	.....
Tinned or Coppered	.....	.....	.....	.....	.....	.....
... per 100 lb.	.....	.....	.....	.....	.....	.....
Width.....in.	3/16	1/8	1/4	5/16	3/4	1/2
Length.....in.	1 3/32	1 1/16	1 1/8	1 1/4	1 3/8	1 1/2
Gage No.....	16	16	16	15	15	14

Clout Nails



Bright or Blued

Length Inches	100-Lb. Kegs	Length Inches	100-Lb. Kegs
3/4	1 1/4	.....
7/8	1 1/2 & Lgr.	.....
1

No. 5 Wire Cloth Staples

Blued

Cut actual size.

In 1/8-pound papers.

No.	Size Inches	Gauge No.	Price per 100 Lbs.
5	7/32 x 3/4	18	.....

Wire Hoop Staples

In 100-Pound Kegs

Width.....in.	Light		Regular
	1/2	5/8	3/4
Per 100 Lb.....	.....	.....	.....
Length.....in.	1 1/2	1 3/4	2
Gage No.....	15	15	14

Standard finish plain or bright.
Coppered staples are also available.

Coppered Blind Staples

Made of 18-gage wire in lengths of 3/8, 1/2, 5/8, 3/4, 1, and 1 1/4 inches.

Put up in 100-pound bags.

Plain staples also available.

USS American Galvanized Poultry Netting Staples

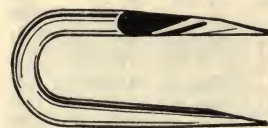


American Steel Wire Gage No. 14.

Packed in 100-pound wire-bound corrugated containers.

Length.....inches	3/4
Number in Pound.....	408

USS American Fence Staples



Made of No. 9 wire, galvanized or polished. The 7/8 and 1 1/4-inch lengths are made in polished wire only.

Put up in kegs containing 100 pounds.

Length.....inches	7/8	1	1 1/8	1 1/4	1 1/2	1 3/4
No. to Pound.....	122	106	97	87	72	61

Wrought Staples



Size In.	No. 976 Plain per Gross	No. 976J Jap. per Gross	No. 976R Galv. per Gross	Gage of Wire	Wt. Lb. per 100 Gross
1120	84
1 1/4120	114
1 1/2135	150
2144	264
2 1/2180	458
3192	690
3 1/2207	880
4207	1060

Sizes 2 1/2 inches and smaller packed 1 gross in a box; larger sizes, 1/2 gross in a box.

Superior Skotch Wood Joint Fasteners



For making all types of wood joints. Makes a tight, strong joint.

Easily applied. Stands upright without holding. Does not cut wood fibers or split wood.

Cadmium steel for prevention of rust. Rosin coated for greater holding power.

No.	BOXED		BULK	
	1	2	0	2
Per Carton.....	\$3.30	.30	4.38	4.50
Size.....inches	$\frac{3}{8} \times 1\frac{1}{16}$	$\frac{1}{2} \times 1\frac{1}{16}$	$\frac{3}{8} \times 1$	$\frac{1}{2} \times 1\frac{1}{16}$
No. in Carton.....	40	25	1000	1000
Wt. per 1000 Ctns. lb.	..	..	5	6
Wt., per Gross	..	..	..	11
Ctns.....lb.	44	52	..	..

Acme Corrugated Wood Joint Fasteners

Divergent Corrugations—Saw Edge

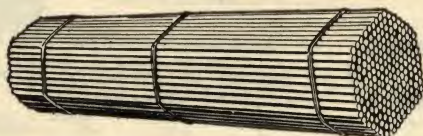


For splicing wood, making screens, box ends, hamper bottoms, etc. The divergent corrugations make strong joints.

Packed 100 to a box, 10 to a carton; also in cartons of 500 and 1000 pieces, 50-pound boxes and 100 pound kegs.

Number of Corrugations	DEPTH, INCHES				
	$\frac{1}{4}$ Per 1000	$\frac{3}{8}$ Per 1000	$\frac{1}{2}$ Per 1000	$\frac{5}{8}$ Per 1000	$\frac{3}{4}$ Per 1000
3	\$1.75	\$1.95	\$1.10	\$1.30	\$1.55
4	1.00	1.20	1.45	1.70	2.00
5	1.20	1.50	1.75	2.10	2.40
6	1.45	1.75	2.10	2.50	2.85

Wood Dowels



Diam. In.	36-Inch Length per 1000 Pieces	48-Inch Length per 1000 Pieces	No. Pieces per Bundle	Diam. In.	36-Inch Length per 1000 Pieces	48-Inch Length per 1000 Pieces	No. Pieces per Bundle
$\frac{3}{16}$	\$21.00	\$28.13	1000	$\frac{1}{2}$	\$67.75	\$91.00	200
$\frac{1}{4}$	26.25	35.10	500	$\frac{5}{8}$	89.00	132.00	100
$\frac{5}{16}$	33.81	45.00	500	$\frac{3}{4}$	138.50	185.00	100
$\frac{3}{8}$	43.50	57.98	200	$\frac{7}{8}$	188.00	251.00	50
$\frac{1}{2}$	52.50	69.90	200	1	242.00	323.00	50

All diameters from $\frac{1}{8}$ to $1\frac{1}{16}$ -inch and all lengths up to 14 feet are available.

No. 991 Stanley Wrought Steel Burrs



Illustration shows the actual size of $\frac{1}{2}$ inch.

Packed in 100 pound kegs. For packing in 1-pound boxes add 8 cents per pound.

Rivet Size	Per Keg	O.D. In.	Size Hole In.	Thick-ness Gage	Appr. No. to Lb.	Rivet Size	Per Keg	O.D. In.	Size Hole In.	Thick-ness Gage	Appr. No. to Lb.
$\frac{3}{8}$ "	...	$\frac{3}{4}$ "	.390	16	169	$\frac{3}{16}$ "	...	$\frac{1}{2}$ "	.197	18	436
$\frac{1}{2}$ "	...	$\frac{5}{8}$ "	.360	16	160	7	...	$\frac{1}{2}$ "	.188	18	430
$\frac{5}{16}$ "	...	$\frac{5}{8}$ "	.325	17	273	8	...	$\frac{1}{2}$ "	.172	18	420
1	...	$\frac{5}{8}$ "	.312	18	315	9	...	$\frac{1}{2}$ "	.157	18	552
2	...	$\frac{5}{8}$ "	.295	18	303	10	...	$\frac{1}{2}$ "	.143	18	637
3	...	$\frac{5}{8}$ "	.272	18	380	11	...	$\frac{3}{8}$ "	.127	18	740
$\frac{1}{4}$ "	...	$\frac{5}{8}$ "	.257	18	368	12	...	$\frac{3}{8}$ "	.115	18	722
4	...	$\frac{5}{8}$ "	.250	18	281	13	...	$\frac{3}{8}$ "	.101	18	822
5	...	$\frac{1}{2}$ "	.227	18	465	14	...	$\frac{1}{2}$ "	.085	18	965
6	...	$\frac{1}{2}$ "	.215	18	450	...	...	...	...	...	...

Bird Roll Roofing

19-Inch Proslate Mineral Surfaced Roofing



A concealed nail roll roofing with a 3-inch selvage. For new or reroofing work. Designed for use on roofs having a pitch of not less than 1 inch to the foot. Provides inexpensive protection for barns, factories, garages, etc., where a long wearing roll roofing is desirable.

Obtainable in brite red, colonial green.

Roll dimensions: width, 19 inches; length, 37 feet. Contains 122 square feet. Weight 90 pounds.

Furnished with two quarts of quick-setting cement and one package of nails for every roll.

Per Roll.....

55-Pound Paroid Smooth Roofing



First grade lightweight roll roofing. Asphalt saturated and coated, talc surface, white.

Roll dimensions; width, 36 inches; length, 36 feet. Contains 108 square feet. Weight 55 pounds. Furnished with 1-pint can lap cement and 1 package galvanized nails.

Per Roll.....

Nails, cement and complete directions for laying packed in each roll. All rolls will cover one square.

Weights are approximate.

Bird Neponset Black Vapor Barrier

An Asphalt-Saturated and Coated Building Paper



For positive vapor control in wall and ceiling construction. Performs double function of sealing cracks, eliminating drafts through walls, and preventing loss of heat by convection.

To accomplish its purpose of vapor-protection this paper must be placed on the warm side of the insulation—nearest the inside or warm surfaces. Moisture from the warm air is stopped before it can reach those spaces near enough to outside temperatures to cause a condition of wetness to occur. Since Neponset Black is applied on the inside face of studs and is lapped 2 inches, its action as a barrier to penetrating moisture is positive, certain.

Apply on the warm side of all insulation when used for ceiling or roof insulation. Apply over ceiling but under insulation when the attic is unfinished. For finished attic construction apply Neponset Black between the insulation and interior finish.

It is tough, waterproofed, asphalt-saturated and coated both sides with a glossy surface asphalt coating.

Besides the above uses in building construction it is a practical paper to put over screen doors in winter, thus providing a substitute for a comparatively expensive storm door, and for laying over new cement walks. Also as a temporary roofing or siding for sheds or shelters.

Put up in rolls 36 inches wide. 250 square feet, approximate weight, 25 pounds per roll; 500 square feet, approximate weight, 50 pounds per roll.

250-Sq. Ft. Rolls.....per roll
500-Sq. Ft. Rolls.....per roll

Prepared Roofing



A smooth or mineral surfaced roofing of exceptional wearing qualities.

Available in light, medium and heavy weight. Medium is generally used. Heavy is best for large roofs exposed to unusual weather conditions.

Width, 36 inches. Roll contains 108 square feet, sufficient to cover 100 square feet.

A sufficient quantity of large headed nails and cement is included with roll.

Lt. Wt., 35 Lb. per roll
Med. Wt., 45 Lb. per roll
Hvy. Wt., 55 lb. per roll

Tarred Roofing Felt



Roll is 36 inches wide and 36 feet long, sufficient to cover 100 square feet.

No.	1	2	3
Per Roll			
Weight, per Roll, pounds	20	15	30

Deadening Felt



Used between the sub-floors and the finished floors of dwelling houses, apartment houses, etc. Put up 1, 1½ and 2 pounds to the square yard, 50 square yards to the roll. Width, 36 inches. This material is efficient.

Prices upon application.

Red Rosin Sized Sheathing



Each roll contains 500 square feet.

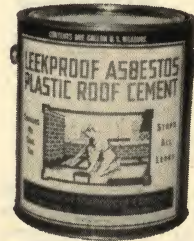
Weight per Roll Pounds	Per Roll	Weight per Roll Pounds	Per Roll
20	35	....
25	40	....
30

Tin Roofing Caps



Diameter inches ¾ to 1½ 1 to 1½
Per Pound

Midwest Leekproof Asbestos Plastic Roof Cement



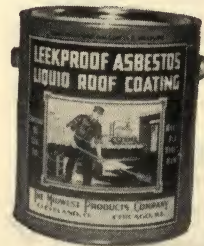
Made from Gilsonite gums, asphalt, and long asbestos fiber.

Ideal for patching holes in roofs, setting in skylights, filling up chimney joints, cracks in walls, etc.

Fire resistant and not affected by acids, fumes, gas, sparks and cinders.

Size Cont. gal.	Cans				Pails		Drums	
	1-Pt.	1-Qt.	½	1	2½	5	30	55
No. per Case ...	48	24	12	6	...	50	325	550
Wt. per Case lb. ..	..	..	..	60	...	...	...	...

Midwest Leekproof Asbestos Liquid Roof Coating



Made of pure asphalt and Canadian long asbestos fiber.

Makes tin, corrugated iron, felt, gravel and composition roofs absolutely water tight.

Unaffected by changing temperatures; does not absorb moisture.

Never cracks from freezing; does not chalk, peel, powder or blister; always remains elastic.

Size Container	Can	Pail	Drums	
No. per Case	1	5	30	55
Weight per Case ... pounds	6	45	300	500

Linopaste Linoleum Cement



For laying inlaid linoleum, as well as felt base floor covering, linoleum tile, linoleum felt and various other types of linoleum.

Has high bonding strength, dries quickly.

One gallon covers from 12 to 15 square yards.

Size Container	1 Pt.	1 Qt.	1 Gal.	5 Gal.
No. per Case	24	12	4	..
Wt. per Case	46	44	51	68

Standard Steel Sash Putty

An ideal putty for inside face glazing of industrial type steel sash. Adheres to both glass and steel.

Specially made of carefully selected materials. Produces a watertight job and sets firm. Is easy to handle, never slides and dries quickly after application.

Supplied in natural color, red and gray. Extra charge for other colors.

Size Container. pounds	1	5	12½	25	50	100
Per 100 Pounds

Putty



Size Package.....pounds	1	5	12½	25
Per Pound.....				
Number to Case.....	36	12	4	1

D-P Glazing Compound



A high quality product formulated to remain on the sash in a semi-plastic condition indefinitely. It does not form objectionable skin nor become hard and crack, but sets firmly, forming permanent bond between glass and sash, which normal contraction or expansion cannot break or crack.

This compound should be applied on a dry, clean surface, as it comes from the can, without the addition of oil or gasoline. If too thick, heat in can.

For best permanent results, paint within a reasonable time after application of the compound.

Size Pkg....lb.	1	5	12½	25	50	100
Per Pound.....						

Kenmar Pressure Guns Ratchet Rod and Triple Thread Cap

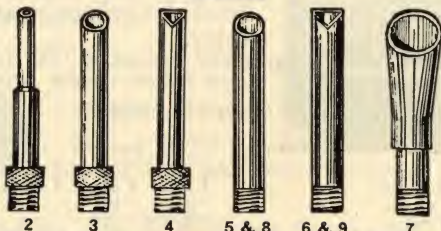
A lightweight gun for caulking, glazing, greasing, seaming, or applying any plastic or semi-liquid materials. Pressure release, suction fill. Pressure 300 to 500 pounds can be developed with ordinary effort. Operates by turning rod handle one-quarter turn.

Polished rustproof finish. Furnished with two extra heavy treated leather plunger cups and spring expander.

Packed in individual cartons.

No.....	32	45
Each.....	\$6.60	9.35
Capacity.....cubic inches	32	45
Barrel.....inches	2x10	2x14
Weight.....pounds	3½	4

Nozzles



Nozzles are interchangeable and fit all regular models. Special shapes and sizes made to order. All regular model guns have No. 8, ⅜-inch nozzle as standard equipment. However, any other nozzle may be substituted by adding the difference in price to the price of the gun.

No.	Each	Size In.	Shape	No.	Each	Size In.	Shape
2	\$.70	⅜	Round	6	\$.40	1½	Triangle
3	.40	¼	Round	7	.80	¾	Round
4	.40	¼	Triangle	8	.40	⅜	Round
5	.40	½	Round	9	.40	⅜	Triangle

Black Swan Glazing Compound

Putty Caulk



Long-lasting plastic putty that will not crack, crumble, disintegrate, but will expand and contract according to temperature changes or structural movements.

Non-drying, non-crumbling with no waste. It is suitable for both steel and wood sash, will adhere to surfaces such as glass, stone, brick, concrete, copper, iron, brass, etc.

Glides smoothly under the knife and spreads evenly with a minimum of effort. Dries with a tough leathery protective coating, leaving the under part soft and pliable.

Breakage is reduced to a minimum because it gives resiliency to glass in window frames. It can be painted successfully.

Size Container Pounds	Natural Each	Colors Each	Aluminum Each	No. in Case	Ship. Wt., Lb. per Case
1	\$.24	\$.28	\$.32	48	50
2	.40	.48	.56	24	50
3	.57	.69	.81	12	40
4	.76	.92	1.08	12	50
5	.90	1.10	1.30	12	65
7½	1.35	1.65	1.95	6	50
15	2.55	3.15	3.75	4	65
25	4.13	5.13	6.13	1	25
50	8.00	10.00	12.00	1	50
75	12.00	15.00	18.00	1	90
100	15.00	19.00	23.00	1	100
120	18.00	22.80	27.60	1	120
200	29.00	37.00	45.00	1	200
300	43.50	55.50	67.50	1	300
450	63.00	81.00	99.00	1	450

The following drum charges will be made: 200-pound drum, \$2.00; 300-pound drum, \$3.00; 450-pound drum \$4.50.

Black Swan Storm Proof Caulking Compound



Rubberized compound prepared from a combination of heavy bodied linseed, soy bean, China wood, and a special blend of imported processed oils, to which are added a varnish base oil at 575°F., together with solid materials.

Forms a tough rubbery skin protecting the under portions, keeping it permanently elastic, but it will never wrinkle, crack, shrink, dry up or fall out.

Adheres to glass, brick, lead, iron, tile, stone, wood, brass, copper, marble and concrete.

Complies with Federal specifications TT-C-598.

Available in two grades, gun and knife.

Weight of gun grade is 12 pounds per gallon; knife grade is 14½ pounds per gallon.

Size Container Gallons	Natural Each	Colors Each	Aluminum Each	No. in Case	Ship. Wt., Lb. per Case
*1 Pint	\$.51	\$.55	\$.60	10	15
1 Quart	.90	1.00	1.10	12	40
½	1.70	1.90	2.10	6	40
1	3.20	3.60	4.00	4	50
5	15.50	17.50	19.50	1	60
30	90.00	102.00	114.00	1	360
55	165.00	187.00	209.00	1	660

*Cartridge form.

The following drum charges will be made: 200-pound drum, \$2.00; 300-pound drum, \$3.00; 450-pound drum \$4.50.

Moore's House Paint



A linseed oil prepared paint. For exterior use on wood, brick and metal.

Made with carbonate of lead, zinc oxide, reinforcing inert pigments and permanent tinting colors. Ground in linseed oil, mixed with turpentine and Japan dryers.

Dries hard with gloss, yet has sufficient elasticity to prevent cracking, checking or peeling.

Covering capacity, 700 square feet per gallon.

Made in 18 shades and white and black.

Moore's Sani-Flat Paint

For all interior decorations on ceiling, walls and woodwork.

Dries with a flat finish that has the washable and durable properties of an oil paint.

Ready for use, flows freely, sets slowly, so that large surfaces may be covered without showing laps or brush marks. May be used for stippling.

Can be washed with soap and water.

Covering capacity, 500 square feet per gallon, one coat.

Made in 14 colors and white.



Moore's Porch and Deck Paint



A processed linseed oil paint for use on steps, porch floors, wood or canvas decks of porches or boats. Withstands wear and tear of heavy walking and outside exposure. Will not spot white with water.

When used on exterior surfaces, dries in 12 hours; for interior floors it is slower drying.

Covering capacity, 400 square feet per gallon, two coats.

Made in 8 attractive colors.

Moorwhite Primer

For all exterior work. Made in white only. Ready mixed. Exceptional sealing and hiding qualities for use under oil paint on exterior surfaces of new wood or old paint.

Provides uniform, non-absorbing paint surface preventing paint failures, such as premature chalking, spotting, fading.

Brushes easily like coat of paint covering about 700 sq. ft. to gal., depending on porosity and roughness of surface. Dries dust-free in few hours. May be tinted to light shades with pure oil colors.



Moore's Wall Satin

Ultra modern interior finish. One or two coats gives uniform color over surfaces, such as woodwork, plaster, wall-board, brick, cement, cinder block, painted surfaces.

Recommended for use on hot surfaces, such as radiators, etc.

Rubber type wall finish ready for use. Brushes easily. Dries in less than an hour to smooth satin finish that after aging has remarkable toughness and washability.

Spreads 400 to 600 square feet per gallon. Available in 14 decorator colors and white.



Moore's Impervo Enamel

For practically any exterior or interior surface where a quick drying, high gloss finish of unusual beauty and outstanding durability is desired.

Easy brushing. Extreme hiding power. Hard, rapid drying.

Washable. Weather resistant.

Covering capacity approximately 800 square feet per gallon, varying with surface conditions and method of application.

Available in 14 bright, permanent colors plus black and a non-yellowing white.



Moore's Truck and Implement Enamel



For use on trucks, tractors and farm implements. Suitable for use on iron work as well as wood. Will prevent rust and decay of agricultural machines. Fast dry.

Covering capacity, 750 square feet per gallon.

Made in blue, green, yellow and red.

Moore's Impervo Spar Varnish

Made with 100 per cent synthetic gum. For exterior and interior use.

An excellent marine varnish for yachts, speedboats, airplanes and all surfaces exposed to sun, water and ice. Will withstand, without loss of luster, cold of snow and ice and the destructive action of salt water. Resistant to alcohol, ammonia and soap. Will not scratch white or turn white under boiling water.

Dries quickly to gloss finish.

Covering capacity, 500-600 square feet per gallon.



Moore's Movar Varnish

Used for interior floors, woodwork, trim on porch floors or front doors. Resistant to boiling water, alcohol, either, grease and oils. Will not scratch white or water spot. It is pale in color. Dries dust-free in 2 hours, hard in 6 hours. May be rubbed.

Covering capacity, 750 square feet per gallon, one coat.

Size Cans..... 1/2 Pt. 1 Pt. 1/4 Gal. 1/2 Gal. 1 Gal.
Each.....

Moore's 6x7 Floor and Trim Varnish

A low priced varnish for interior work. Will not scratch white or water spot.

Dries dust-free in 4 hours, hard in 10 hours.

Covering capacity, 750 square feet per gallon, one coat.

1/2-Pint Cans.....each
1-Pint Cans.....each
1/4-Gallon Cans.....each
1/2-Gallon Cans.....each
1-Gallon Cans.....each

Cuprinol

Water Repellent Preservative



Safe, easy to use. Makes wood, fabric, leather, rope last 2 to 6 times longer. Stops doors and windows from warping, swelling and shrinking. Used wherever wood encounters dampness (indoors or out) or where wood comes in contact with the ground.

No. 20, Clear. For a natural wood finish.

Under varnish or shellac. Especially good on plywood to prevent grain raising, checking, and to subdue prominent grain pattern. Can be painted over.

No. 10, Green. For general use on wood. Protects areas where rot develops. For wood in contact with soil or water. Can be painted over.

No. 70, Brown Stain. For use where a lasting chestnut brown wood finish is desired.

No. 45, Sav-It. Mildew-proofs fabrics and leather. Water repellent. Takes shine. Does not stiffen or discolor fabrics free of alkalies.

No. 14, For Florists. Green. For dipping flats or stakes. Destroys fungus growths and wood-boring insects.

No. 30, For Rope. Green. Rope may be stored wet without heating or rotting. Coverage about 30 pounds of rope to gallon.

No. 50, For Nets and Submerged Ropes. Green. Protects against marine growth, slime and fouling. For fish nets, trawl, float trap and bouy lines, boat moorings, lobster pots. Coverage about 20 pounds of rope or nets to gallon.

	Cans		Pails	Drums
	1-Qt. Each	1-Gal. Each	5-Gal. per Gal.	50-Gal. per Gal.
No. 20, Clear.....	\$1.75	4.70	4.40	4.20
No. 10, Green.....	1.75	4.70	4.40	4.20
No. 70, Brown Stain.....	1.75	4.70	4.40	4.20
No. 45, Sav-It.....	1.75	4.70	4.40	4.20
No. 14, Green, For Florists...	....	....	2.85	2.65
No. 30, Green, For Rope.....	1.45	4.00	3.70	3.50
No. 50, Green, For Nets & Ropes.	1.80	5.85	5.65	5.50

Day's Du-Pros Strictly Pure Shellac

White and Orange



Made of high grade strictly pure shellac gum cut in specially denatured alcohol. Every particle of the gum is dissolved. Spreads easily and covers well.

Packed in 5 and 1-gallon cans; quart, pint and 1/2-pint cans.

Prices upon application.

Smith Marine Varnish



Aquatite

Designed to withstand excessive changes in weather and for general marine use. Good either in fresh or salt water, will not turn white.

An excellent finish for topsides and exterior bright work. Light in color.

Dries dust-free in four hours, and hard overnight.

BX 127 Marine Spar Varnish

A brilliant tough spar varnish with a bakelite base, for use on varnished hulls. Will withstand the abrasive action of fast hulls cutting through water at high speed.

For best results sand lightly between coats, and build up from the bare wood.

4-Hour Marine Spar Varnish

Particularly desirable when weather conditions are unsettled, because of its quick drying qualities. Good in either fresh or salt water.

Pale in color.

Dries dust-free in about two hours.

Covering capacity of spar varnish runs from 600 to 700 square feet per gallon.

All varnishes are put up in 1/2-pint, 1-quart, 1/2-gallon and 1-gallon cans.

Mortell No Drip

Plastic Coating

An easy-flowing plastic coating that can be applied to any clean, painted or unpainted surface to prevent dripping. Used by industrial plants, storekeepers, home owners, etc.—wherever condensation drip may cause damage to equipment, furniture, etc.



Applied with a brush or trowel to pipes, flat or rounded surfaces; spray equipment used for large factory interiors, etc.

Size Container.....	gallons	*1	5	55
Each.....		\$1.90	8.75	90.00
Coverage.....	sq. ft.	6	30	330
Weight.....	pounds	†58	46	500

*Packed 6 in a carton. †Per carton.

NoDrip Primer

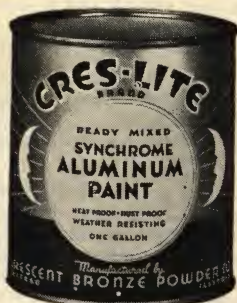


Used before applying No Drip when metal is severely rusted or pitted.

On concrete, masonry, wood or any absorbent material NoDrip Primer stops suction and eliminates drying too rapidly.

Size Can.....	1 Qt.	1 Gal.	5 Gal.	
Each.....	\$.60	1.90	8.75	
Coverage.....	sq. ft.	50	200	1000
No. in Carton.....	6	6	1	
Wt. per Carton.....	pounds	13	51	44

Cres-Lite Synchrome Aluminum Paint



Used as a protective coating for tanks, stacks, roofs, metal, concrete, brick, and other structures and equipment.

Resists weather, corrosion, moisture, fumes, and temperatures up to 600°F.

Can be applied by brush, dip, or spray to leave a brilliant and durable finish.

Covers up to 800 square feet per gallon depending upon method of application and surface to which it is applied.

One coat covers most surfaces with a chrome-like aluminum finish.

Sets to touch in 1 hour; dries hard in 8 hours.

Only a high purity 325 mesh aluminum pigment made from 99 plus per cent pure aluminum is used.

Packed: six 1-gallon cans to a carton; twenty-four quart cans to a carton; twenty-four pint cans to a carton; twenty-four ½-pint cans to a carton.

Per Quart.....each
Per Gallon.....each

Kay-Tite Protective Coating



For Porous Masonry

For use on porous masonry, floors or walls. Controls water seepage inside or outside, below or above grade.

Used on brick walls and piers, cinder and concrete block walls, rough and concrete masonry, copings, stone and stucco surfaces, for cellar walls and floors, pump and boiler pits, etc. Easily applied.

Available in white, gray, brick red, rose, cream, buff and Spanish buff colors.

No.....	A	D
Per Case.....	\$17.40	11.00
Size.....lb.	10	50
No. in Case.....	6	1
Wt. per Case.lb.	62	54

Green or Blue Only

No.....	A	D
Per Case.....	\$21.00	14.00
Size.....inches	10	50
No. in Case.....	6	1
Weight per Case.....pounds	62	54

Sheep Wool Sponges



These sponges are packed in assortments containing only the most desirable sizes and grades, making it easy for both dealer and consumer to make selection.

Prices upon application.



Solox Solvent

A proprietary alcohol type solvent for cutting and thinning shellac, nitrocellulose lacquers and spirit varnishes. Conforms to narrow specification limits. Non-corrosive; burns with a clean, colorless flame; leaves no residue.

Furnished in 1-pint cans, 48 to a case; 1-quart cans, 24 to a case; 1-gallon cans, 6 to a case; and 5 and 54-gallon drums.

Soft Paste White Lead

Put up in 25, 50, and 100-pound kegs.

White Lead in Oil

Put up in 1 and 5-pound packages.

Dry Red Lead

Put up in 25, 50, and 100-pound kegs.

Litharge

Put up in 25, 50, and 100-pound kegs.
Prices on application.

Strictly Pure Linseed Oil

All standard brands at lowest market prices.

Pure Turpentine

Per Gallon.....

Lamp Black

Specially manufactured for purposes where absolutely pure Lamp Black is required.

8-Ounce Package.....	each	...
1-Pound Package.....	each	...

Extra Gilders Whiting

Bolted

Very fine; for use in making kalsomine; also used by the practical painter in connection with other pigments to produce shades.

100-Lb. Bags.....	per lb.	....
Bulk.....	per lb.	....

Commercial Whiting

Not as fine as Extra Gilders but used for the same purpose.

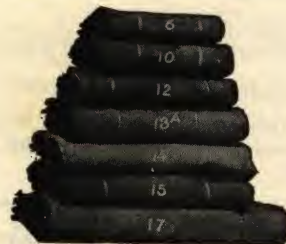
100-Lb. Bags.....	per lb.	....
Bulk.....	per lb.	....

Plaster of Paris

A good white grade for painters, plasterers, etc.

100-Lb. Sacks.....	per 100 lbs.	....
1-Lb. Packages.....	per 100 lbs.	....

Chamois Skins



Guaranteed washable.

Price, No. 12, 12x14 Inches.....	each	....
Price, No. 14, 19x25 Inches.....	each	....
Price, No. 17, 26x28 Inches.....	each	....
Price, Genuine French Chamois, Full Skin about 24x28 Inches.....	each	....

Plastic Wood

For repairs; a cellulose fiber compound of consistency of thick paste. Hardens into wood upon exposure to air.



After hardening, has all the characteristics of wood except grain, and can be sawed, planed, whittled, and turned in a lathe. Holds screws and nails without splitting. Can be varnished or painted.

Waterproof and oil-proof. Will not chip, crack or crumble and does not deteriorate with age.

Furnished in natural, white, light mahogany, dark mahogany, walnut, oak, cedar, gumwood and ebony.

Tubes.....	per dozen	\$3.00
1/4-Pound Cans.....	per dozen	4.20
1-Pound Cans.....	per dozen	10.20

Plastic Wood Solvent



For softening plastic wood which has hardened from evaporation. Also removes dried plastic wood from fingers and tools.

No.....	8585	8589
Each.....	\$.25	1.50.
Size Container.....	3 Oz.	1 Qt
No. Cans per Case.....	12	2
Weight Per Case.....	pounds 3	6

Savogran Paint Brush Cleaner



Cleans and softens used brushes. Restores hard, paint-caked brushes and keeps new brushes in good condition.

The 4-ounce size makes a half-gallon of solution, and the 12-ounce package makes 1½ gallons.

Size Can.....	ounces 4	12
Each.....	\$.10	.25
No. of Cans to Carton.....	72	36

Savogran Heavy Duty Cleaner



Painters' Savogran

For cleaning oily garage floors, painted surfaces, walls, woodwork, floors, pots and pans, etc. Cleans exteriors of wood, stone, brick, stucco and shingled buildings. Removes dirt and grease without scrubbing.

Soaks paint spots from overalls, etc. Cleans and deodorizes drains and traps, etc.

	Can		Steel Pail
Size Container.....	pounds 1	5	35
Per Pound.....	\$.30	.25	.23
No. in Carton.....	12	6	...
Ship. Weight.....	pounds 15	35	38

Savogran Wood Putty



Ideal for all repairs to wood (woodwork, furniture, toys, etc.) and homecraft uses.

Made with pulverized wood.

This powder-form plastic can be easily cut, sawed, drilled, carved, planed, cast, molded, etc.

Easy to use, just add water. Quick hardening, easily painted, stained or precolored with dry color, sticks tight and will not shrink.

	Can		Steel Pail
Size Container.....	pounds 1	4	35
Per Pound.....	\$.35	.30	.28
No. in Carton.....	12	6	...
Ship. Weight.....	pounds 15	30	38

Savogran Crack Filler



Will not shrink and is not inflammable.

Used to fill nail and knot holes, joints, deep dents, crevices, cracks in wood, stone or plaster.

Easily mixed with water; dries quickly.

Can be polished, stained or painted to match the surrounding material. If preferred, dry color can be added to the powder before mixing.

35-Pound All Metal Pail.....	per pound	\$.28
5-Pound Canister.....	per pound	.30
1-Pound Can.....	per pound	.35

Savogran Strypeeze Semi-Paste Remover



Removes all paint finishes including bakelite and synthetic resin types. Usually one application completely strips to bare surface. Use inside or out in any temperature. Stays put on upright or overhead surfaces. Contains no benzol, acid, caustic, alkali or wax. Does not injure hands, clothing, or surface stripped.

Covers approximately 200 square feet per gallon.

Size Container..	1/2-Pt.	1-Pt.	1-Qt.	1-Gal.	5-Gal.	55-Gal.
Each.....	\$.45	.75	1.15	3.55	*3.40	*3.25
No. in Case.....	24	12	12	6	1	1
Wt. per Case..lb.	15	14	26	47	40	435

*Per gallon.

Soilax



A cleanser designed for cleaning painted surfaces, walls, woodwork, sinks, bathtubs, refrigerators, detarnishing silver, and for use in laundering.

A pink powder, Soilax turns water green.

Contains no soap, makes no suds, cleans by a new method.

Soilax rinses easily having no deposit to attract dirt.

A fast, powerful cleanser that will not harm delicate surfaces or fabrics.

Size Container.....	1 Lb.	2 Oz.	3-Lb.	*4 1/2-Lb.	25-Lb.
Each.....	Pkg. \$.25	Pkg. .63	Pkg. 1.15	Pail 3.65	
No. Containers in Case	24	12	12	1	
Shipping Weight.....lb.	40	39	60	25	

*With sponge premium.

No. 202 Scotch Brand Masking Tape In 60-Yard Rolls



A thin flexible masking tape with strong backing. Holds firmly to chrome parts, rubber mouldings, upholstery or paper aprons.

Width	No. Per Std. Ctn.	Width	No. Per Std. Ctn.
In. Each	In. Each	In. Each	In. Each
1/4 \$.82	144	1 3/4 \$2.87	24
3/8 .94	96	2 3.28	20
1/2 1.07	72	2 1/4 3.69	16
5/8 1.19	60	2 1/2 4.10	16
3/4 1.31	48	2 3/4 4.51	16
7/8 1.48	44	3 4.92	12
1 1.64	36	3 1/2 5.74	12
1 1/4 2.05	28	4 6.56	9
1 1/2 2.46	24	...	...

No. 7 Binks Heavy Duty Spray Guns

Suitable for all types of finishing material.

For use with syphon or pressure cups, pressure tank, gravity bucket or circulating system.

Gun body is of drop-forged aluminum with black electrolytic coating for surface protection. Gun head and air nozzle are of drop forged bronze, chromium plated. Material nozzle and fluid needle valve are of stainless steel hardened and polished.

Fluid needle valve and air valve assembly are floating and self-centering construction. Adjustable fluid needle valve compensates for wear. Material control is sensitive from closed to full open position.

Spray adjustment is located on back of gun with adjustment from round to full width of spray and all intermediate positions. Hose connections are standard pipe thread. Fluid connection is standard $\frac{3}{8}$ -inch pipe connection or any connection desired. Air connection is standard $\frac{1}{4}$ -inch or any other connection desired.

Nozzle centering principle is tapered seat construction. All moving parts of stainless hardened steel. This gun is light in weight with a comfortable grip. The balance of the gun is ideal for continuous handling.

No. 7V Spray Gun is the same as No. 7 except that it is designed to spray materials used by the ceramic industry. The material nozzle and needle valve are equipped with tungsten carbide inserts to insure long life in spite of abrasive materials.

Shipping weight, 2 $\frac{1}{2}$ pounds.

No. 7.....	\$35.80
No. 7V, for Ceramic Industry.....	46.55
No. 7, for Stipple or Spatter.....	35.80
No. 7, for Veiling.....	38.60

Binks Lightweight Spray Guns



No. 29

Brass and steel material passage protects the aluminum gun body from corrosion and erosion caused by certain paints and other fluids.

Bronze air nozzle is drop forged for toughness, then machined to extremely close tolerance.

Cartridge-type air valve and its seat are quickly replaceable as a complete unit. Has bottom air inlet, tapered seat and copper gasket.

Spray pattern adjustable from round to flat with all widths in between. Air control on side of gun. Material control at back.

Standard pipe threads on all hose connections. Air hose connection, $\frac{1}{4}$ inch. Material hose connection, $\frac{3}{8}$ inch.

When ordering, specify nozzle set-up desired.

Shipping weight gun only, 2 $\frac{1}{4}$ pounds.

Shipping weight gun with syphon cup, 3 $\frac{1}{2}$ pounds.

No. 29, Gun Only.....	each \$22.50
No. 29, Gun with No. 81-500 Quart Attachable Syphon Cup.....	each 29.10

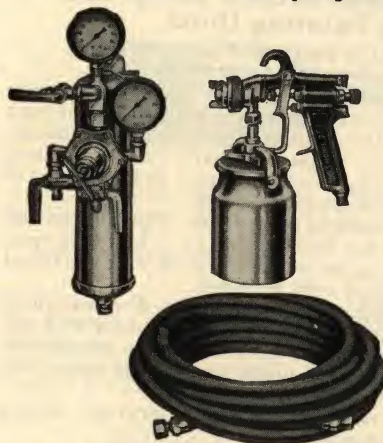
No. 29V

For spraying ceramic materials. Material nozzle and needle valve are equipped with tungsten carbide inserts to insure long life when using abrasive materials.

Shipping weight, 2 $\frac{1}{4}$ pounds.

No. 29V, Gun Only.....	each \$32.85
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No. S-512 Binks Spray Painting Units



Designed for automotive and other refinishing. Will spray all standard materials.

Nozzles recommended: 66x66SA—8.1 cfm. at 50 pound pressure. 66x66SD—11.6 cfm. at 50 pound pressure.

Shipping weight, 21 pounds.

No. 7, Spray Gun.....	each \$35.80
No. 81-500, Quart Syphon Cup.....	each 6.60
No. H-105, 25 Foot Length Air Hose with Connections.....	each 6.05
No. 538-A, Extractor.....	each 35.85
No. S-512, Complete.....	each 84.30

No. 8 Binks Spray Guns



An internal atomizing, bleeder type pressure feed spray gun used for light duty painting or finishing.

For use on air compressors as small as $\frac{1}{4}$ hp., having no unloading device, or in air lines where the pressure does not exceed 50 pounds. Should not be used with higher pressure.

Adjustable spray—sprays light or heavy materials. No air valve, the air flows from gun at all times. Capacity of cup, 1 quart.

Furnished with fan spray nozzle. Round spray and slotted angle nozzles are also available.

By removing the quart cup and material tube and closing the valve below the air connection, the model 8 gun can then be used with pressure material tank.

No. 8, With Qt. Cup; Ship. Wt., 2 Lb..... each \$16.05

No. 160B Binks Oil Guns



A tool for oiling springs or cleaning accumulations of grease or oil from springs, wheels, engines, etc.

Requires 2 $\frac{1}{2}$ to 5 $\frac{3}{4}$ cfm. at 40 to 100 pounds pressure.

Capacity of aluminum cup is 1 quart. Requires standard $\frac{1}{4}$ -inch hose and connection.

Packed in carton.

Shipping weight, 4 pounds.

No. 160B, Gun and Cup without Hose.....	each \$10.70
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We stock a complete line of
**Industrial and House
PAINTS and VARNISHES**

Special catalogs, color charts and prices
will be furnished promptly

No. DP¹/₂E Binks Portable Compressor Spray Painting Units

1/2 Hp.—110-120 Volts, 60 Cycles, A.C.
Listed by Underwriters' Laboratories

Piston type compressor unit; delivers 40 pounds pressure in steady air flow which is ample to operate gun, cup or tank combinations. Complete paint atomization, handles metallics, enamels, lacquers, house and barn paint, shellacs, varnish and other coatings with the speed and efficiency of a 1-hp. compressor, without overheating.

Motor is built as an integral part of unit. Operates on any 110-120 volt, 60 cycle, a.c. line. Rated at 1/2 hp., 1725 rpm. Toggle switch at rear can be turned on or off with the toe of shoe. Heavy duty 15-foot cord included.

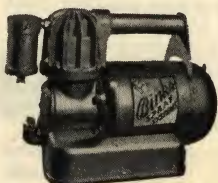
Compact unit, no exposed moving parts. Pressure-relief valve. Eight oversize fins on compressor head for cool operation. Generous oil reservoir provides ample lubrication for smooth, cool performance under continuous operation. Rubber feet on base eliminate creeping.

Well-balanced and designed for easy carrying. Strong 6-inch handle permits a solid grip.

All couplings are provided with standard threads. Overall: 15 1/8 inches long; 11 1/2 inches high; 7 1/2 inches wide at base. Weight, 47 lb.; ship. wt., 52 lb.

Blue-gray baked on enamel finish. With 15-foot cord. No. DP¹/₂E, with 1/2 Hp. Electric Motor and 15-Foot Heavy Duty Cord.....each **\$84.70**

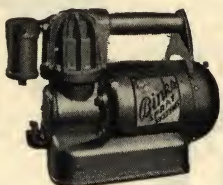
No. DP¹/₂E Compressor with No. S-660 Painting Unit



No. 8 spray gun and cup for light duty work. Quart capacity. Bleeder type. No. JAXR8 nozzle furnished. Round spray and slotted angle nozzles available; also 15-foot air hose and connections.

No. S-660, Complete Painting Unit Only.....each **\$16.10**

No. DP¹/₂E Compressor with No. P-670 Painting Unit



No. 8 spray gun and 2 gallon pressure tank. No. JAXR8 nozzle furnished. Also furnished with 3 lengths of 15-foot hose and connections.

No. P-670, Complete Painting Unit Only.....each **\$55.80**

BINKS GUNS

Information upon request.

Available with various types of extension and angle heads, internal and external nozzles.

Binks Hose Connections

Removable Type—Straight Style

For 1/4-Inch Air Hose	
No. SC-303, 1/4-Inch Pipe Thread.....each	\$.60
For 1/4-Inch Fluid Hose	
No. SC-306, 3/8-Inch Pipe Thread.....each	.60
For 5/16-Inch Air Hose	
No. SC-317, 1/4-Inch Pipe Thread.....each	.65
For 3/8-Inch Air or Fluid Hose	
No. SC-328, 3/8-Inch Pipe Thread.....each	.70
For 1/2-Inch Air or Fluid Hose	
No. SC-333, 3/8-Inch Pipe Thread.....each	1.95
For 3/4-Inch Air or Fluid Hose	
No. SC-336, 3/4-Inch Pipe Thread.....each	2.40

Binks Spray Fittings

Double Male Nipples

Furnished with any desired threads.

No. D-1050, 1/4 In.....each	\$.40
No. D-1294, 3/8 In.....each	.40

Adapters

For use with special spray gun; specify make and threads.

No.	Each	Size Connection
SC-48	\$.40	1/4" Pipe F. to 3/16"-20 M.
SC-49	.40	3/8" Pipe F. to 1/16"-20 M.
SC-50	.40	3/8" Pipe F. to 5/8"-18 M.
SC-51	.40	1/4" Pipe M. to 3/16"-20 F.
SC-52	.40	3/8" Pipe M. to 1/16"-20 F.
SC-53	.40	3/8" Pipe M. to 5/8"-18 F.
SC-54	.40	1/4" Pipe F. to 3/8" M.
SC-55	.40	1/4" Pipe M. to 3/8" F.
SC-56	.40	1/4" Pipe M. to 5/8"-18 F.

No. SD-57 Air Adjusting Valves

Straight air adjusting valve, for use with Nos. 17, 7 or 29 gun.

No. SD-57.....each **\$1.80**

Shut-Off Cocks

No. D-1253, 1/4" Standard Double Male Cock.....each	1.50
No. D-1241, 3/8" Standard Double Male Cock.....each	1.55
No. D-1698 Material Cock, with Std. 3/8" Male Thrd. and 3/8" Female Swivel Nut.....each	2.75

No. D-1693 75° Angle Cock

No. D-1693, 3/8" Taper P.T. by 3/8" Straight P.T.....each **\$3.05**

Angle Connections

No. SD-12, 1/4" Male Thread and 1/4" Female Swivel Nut.....each	\$.80
No. SD-16, 3/8" Male Thread and 3/8" Female Swivel Nut.....each	1.05



Binks Air and Material Hose

1/2-inch hose connections fit 3/8-inch standard pipe thread.

No. H-105, 5/16-Inch Rubber Air Hose, Coupled



For production spray guns. Withstands solvent action of oil and moisture that might pass over with compressed air. Length...feet 5 10 15 20 25 50 75 100 Each.....\$2.25 3.20 4.15 5.10 6.05 10.80 15.55 20.30

No. H-105, 5/16-Inch Rubber Air Hose, Uncoupled

No. H-105.....per foot **\$1.19**

No. H-208, 3/8-Inch Material Fluid Hose, Coupled



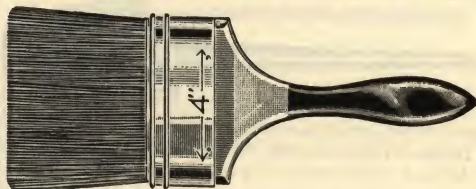
A light, durable hose, black in color, 2 braid. The Thiokol lining will withstand solvent action of painting materials. Will stand excessive pressure.

Length...feet 5 10 15 20 25 50 75 100 Each.....\$3.10 4.80 6.50 8.20 9.90 18.40 26.90 35.40

No. H-208, 3/8-Inch Material Fluid Hose, Uncoupled

No. H-208.....per foot **\$3.34**

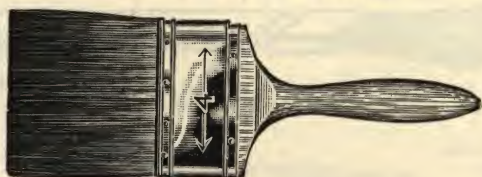
Sport Wall Brushes



Bristle and nylon stock; nickel tin ferrule; red and black peerless handle; square trim; set in rubber.
Packed 6 in a box.

Width.....inches	3	3½	4
Per Dozen.....	\$33.33	40.00	50.00
Thickness.....inches	7/8	7/8	7/8
Stock Out.....inches	2¾	2¾	3
Approx. Weight per Doz.....lb.	3⅝	4⅛	4⅝

Workwell Wall Brushes

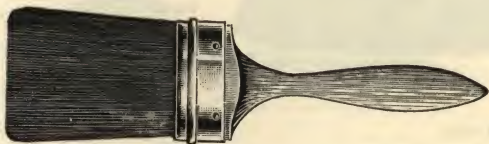


Very best grade bristle and nylon stock, vulcanized in rubber; nickel plated ferrule; clear lacquered beaver tail oval handle.

Thickness, 7/8 inch.
Packed 6 in a box.

Width.....inches	3	3½	4
Per Dozen.....	\$53.33	73.33	96.66
Stock Out.....inches	3¼	3½	3¾
Weight per Dozen.....pounds	5¾	6¾	8¼

Idol Oval Varnish Brushes

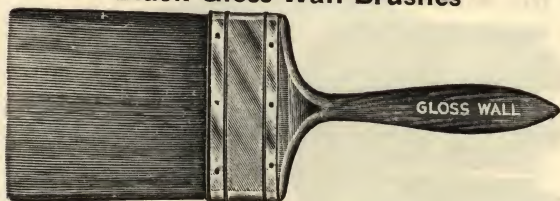


Bristle and nylon stock, vulcanized in rubber; nickel plated steel ferrules; blue, clear and red beaver tail handle.

Packed 6 in a box.

Size No.....	30	40	50
Per Dozen.....	\$66.66	93.33	133.33
Diameter.....inches	2½x1½	2¼x1¼	2½x1½
Stock Out.....inches	3¼	3½	3¾
Weight per Dozen.....pounds	5¾	6½	8

Black Gloss Wall Brushes



An ideal short stock painter's tool. It is vulcanized in rubber; best quality black Chinese bristle stock; practically solid center; nickel plated ferrule; clear beaver tail oval handle. Packed 6 in a box.

Width.....inches	3	3½	4	4½
Per Dozen.....	\$106.66	166.66	220.00	313.33
Thickness.....inches	1	1	1	1
Length Bristles.....inches	3¾	4	4¼	4½
Weight per Dozen.....pounds	5⅝	6¼	7⅛	7¾

Utility Flat Varnish Brushes

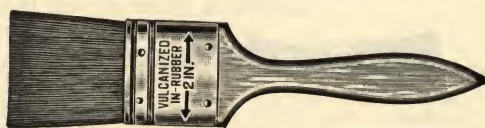


Black Chinese bristle stock, vulcanized in rubber; polished tin ferrule; two-tone onyx handle.

Packed 12 in a box.

Width.....inches	1	1½	2	2½	3
Per Dozen.....	\$4.00	5.33	7.33	12.66	15.33
Thickness.....inches	5/16	3/8	3/8	7/16	1/2
Stock Out.....inches	2	2	2	2¼	2¼
Weight per Dozen.....pounds	1½	7/8	1½	2	2½

Service Flat Varnish Brushes



Pure black Chinese bristle, single X thick, with chisel trim, set in rubber.

Nickel tin ferrule. Clear lacquered flat handle.

Packed 12 in a box.

Width.....inches	1	1½	2	2½	3
Per Dozen.....	\$6.00	8.66	12.00	16.66	20.00
Thickness.....inches	3/8	7/16	7/16	1/2	1/2
Stock Out.....inches	2¼	2¼	2¼	2¾	2¾
Weight per Doz.....lb.	7/8	1⅝	1⅝	2¾	3½

Ko Ko Varnish Brushes



Pure black Chinese bristle, double XX thick, with chisel trim, set in rubber.

Nickel tin ferrule. Blue and gold panel handle.

Packed 12 in a box.

Width.....inches	1	1½	2	2½	3
Per Dozen.....	\$8.66	12.00	18.00	26.66	33.33
Thickness.....inches	7/16	1/2	9/16	5/8	11/16
Stock Out.....inches	2½	2½	2¾	2¾	2¾
Weight per Dozen....lb.	7/8	1½	2	2¾	3⅝

Pip Flat Varnish Brushes



Chisel edges, bristle and nylon stock; vulcanized in rubber; nickel-plated ferrule; blue, clear and red beaver tail handle.

Packed 12 in a box.

Width.....inches	1½	2	2½	3
Per Dozen.....	\$26.66	36.66	53.33	73.33
Thickness.....inches	11/16	3/4	13/16	7/8
Stock Out.....inches	2⅞	3⅞	3⅞	3⅞
Weight per Dozen.....pounds	2	2⅝	3⅝	4⅝

Black Trim Sash Brushes



Chisel edged, black Chinese bristle stock; nickel-plated ferrule; long flat polished handle. Vulcanized in rubber.

Packed 12 in a box.

Width.....inches	1	1½	2	2½
Per Dozen.....	\$10.00	13.33	20.00	30.00
Thickness.....inches	7/16	1/2	9/16	5/8
Length Stock.....inches	21/8	23/8	25/8	27/8
Weight per Dozen....pounds	1¼	1¾	2¼	2¾

Super Oval Sash Brushes

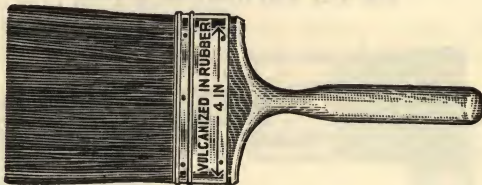


Pure black Chinese bristle, chisel trim, set in rubber.

Seamless steel ferrule, round clear lacquered handle.

Size No.....	2	4	6	8	10	14
Per Dozen.....	\$6.00	9.33	12.00	16.66	21.33	28.00
Diam.....in.	1½x3/8	27/32x1/2	1x5/8	1¾x3/4	1¼x7/8	1½x11/16
Stock Out.....in.	13/8	17/8	21/8	23/8	25/8	27/8
No. in Box.....	12	12	12	12	12	12
Wt., Doz.....lb.	1½	1¾	1½	2	2½	3

Flat Painters' Dusters



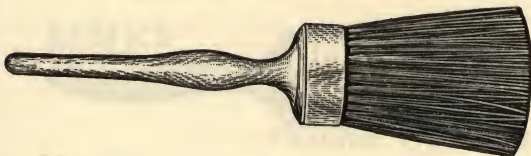
Vulcanized in rubber. Nickel tin ferrule. Round natural polished handle.

Size, 4 inches. Thickness 1½ inches.

Packed 6 in a box.

No.....	350HT	360HH	370N	380BNy
Per Dozen.....	\$38.00	60.00	56.66	123.33
Stock Out....in.	3¾	3¾	3¾	37/8
Type Bristle....	Horsehair & Tampico	Horsehair	Neosyn	Bristle & Nylon
Wt. per Doz...lb.	6	6¼	6¼	65/8

Painters' Round Dusters

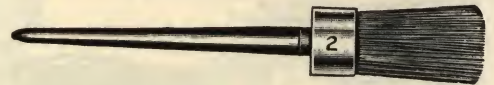


Set extra deep with pitch in block; warranted to hold. Diameter, 2¼ inches.

Packed 6 in a box.

No.....	2HT	13HH	10N	42BNy
Per Dozen.....	\$45.33	56.66	76.66	130.00
Lgth.Bristles.in.	3½	3¾	3¾	4
Type Bristle....	Horsehair & Tampico	Horsehair	Neosyn	Bristle & Nylon
Wt. per Doz...lb.	3½	4	4½	4¼

No. 7-22 Extra Round Glue Brushes



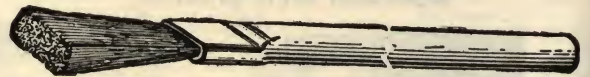
All grey bristle mixture stock cemented in ferrule. A solid round brass ferrule is used on sizes 3/0, 2/0 and 1/0; the others have a solid round copper ferrule.

The round pointed, plain wood handle is driven through the stock and ferrule.

Packed 12 in a box.

No.....	3/0	2/0	1/0	1	2
Per Dozen.....	\$20.00	21.33	23.33	24.66	30.00
Diameter.....inches	5/8	3/4	7/8	1	1½
Stock Out.....inches	15/8	15/8	17/8	17/8	17/8
Wt. per Dozen....lb.	¾	1	1¼	15/8	2

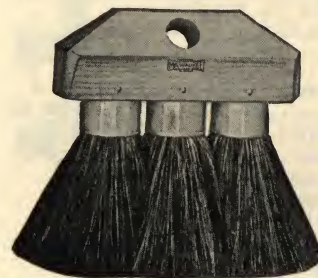
Acid Brushes or Swabs



For soldering. Horsetail hair in tin handle. Length, 6 inches.

No.....	Mvc	1	2	3
Per Gross.....				
Width.....inches	¼	3/8	½	5/8

Tarzon Roof Paint Brushes



Selected white tampico fibre.

Pressed steel ferrules.

Stock 3½ inches out of ferrule.

Natural varnished block, 1½ inches wide on face.

Packed 6 in a carton.

Size.....	3-Knot	4-Knot
Per Dozen.....		
Weight per Dozen.....pounds	13	17

Shoe Handle Platers' Brushes

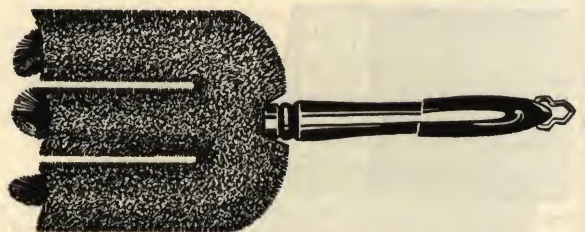


Plain finished hardwood block, wire fastened.

Four rows. Length, brush part, 5 in. over all, 10 in.; stock, 1 in. Block 1¼" wide. Wt. doz. 3¼lb.

No. 1380, Gray Tampico Fibre.....	per dozen	....
No. 1381, Black Chinese Bristle.....	per dozen	....

No. 9212 Oxco Venetian Blind Brushes



Sterilized grey horse hair and plastic twisted-in-wire filling; 3 fingers. Fingers are 5½ inches long; 1½ inches in diameter.

Natural lacquered hardwood handle, 7 inches long.

Packed ½ dozen to a shipping container.

Weight per dozen, 6 pounds.

No. 481 Sanitary Brushes

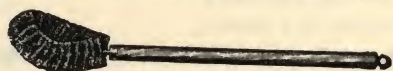


Brush part $6\frac{1}{2}$ inches long, $3\frac{1}{2}$ inches diameter. Length overall, 24 inches.

Grey tampico fiber; straight face; spiral wound. Hardwood handle.

Packed $\frac{1}{2}$ dozen in carton. Weight per gross, 78 pounds.
No. 481.....per gross

No. 484 Sanitary Brushes



Brush part $5\frac{1}{4}$ inches long, 4 inches wide, $1\frac{3}{4}$ inches diameter. Length overall, $21\frac{1}{2}$ inches.

White tampico fiber; twisted-in-wire brush part. Hardwood handle.

Packed 1 dozen in carton. Weight per gross, 66 pounds.
No. 484.....per gross

No. 512 Cuspidor Brushes



Brush part 4 inches long, $3\frac{1}{2}$ inches diameter. Length overall, $16\frac{1}{2}$ inches.

Stiff palmetto fiber; straight face; spiral wound. Hardwood handle.

Shipped in bulk. Weight per gross, 66 pounds.
No. 512.....per gross

No. 60 Oxco Bowl Brushes



Ox Palmetto filling securely wire wrapped on smooth finished 20-inch hardwood handle.

Brush, $4\frac{1}{2}$ inches long by $4\frac{1}{2}$ inches diameter.

Packed 1 dozen to shipping container.

Shipping weight per dozen, 11 pounds.

No. 60.....each

Star Oblong Window Brushes



Pure black horsehair. Wire fastened. Natural polished block.

An excellent medium priced brush for home use.

Solid block. Two handle holes.

Packed 6 in a carton.

Size Block.....	inches	8x2 $\frac{1}{2}$
Star.....	per dozen	
Length Stock.....	inches	2 $\frac{1}{2}$
Weight, per Dozen.....	pounds	11

Bill Oblong Window Brushes



Solid block, $8x2\frac{1}{2}$ inches. Two handle holes. Length of stock, $2\frac{1}{4}$ inches, staple set. Natural polished block. Selected mixed black horsehair.

Weight per dozen, 10 pounds.
Per Dozen.....

Tuscan Oblong Window Brushes



Solid blocks, 2 handle holes. Stiff pure black horsehair, wire fastened. Natural polished block.

A well filled brush for general use.

Packed in individual cartons.

Size Block.....	inches	8 $\frac{1}{2}x2\frac{1}{2}$
Tuscan.....	per dozen	
Length Stock.....	inches	2 $\frac{1}{4}$
Weight, per Dozen.....	pounds	13

Oxco Guard Palmyra Deck Brushes



Length block, 10 inches. Trim, $1\frac{1}{8}$ inches.

Packed 1 dozen to shipping container.

Shipping weight per dozen, 16 lb.

Per Dozen.....

Ox Fibre Goose Scrub Brushes



Has 5x14 rows of Ox fiber.

Block, 8 inches. Size face, $10x2\frac{3}{4}$ inches.

Packed 1 dozen to a shipping carton. Weight per gross, 96 pounds.

No. 1 Good Luck Pointed End Scrub Brushes



A smooth finished block, size $10\frac{1}{2}x2\frac{5}{8}$ inches. Eighty-eight holes. Filled with white tampico.

Packed 1 dozen in a box. Weight per gross, 72 pounds.
No. 1.....per dozen

Oxco Jersey Brewery and Dairy Brushes



Ox palmetto filling. Center trim, $1\frac{1}{8}$ inches. Wing trim, $1\frac{1}{8}$ inches. Face, $9x4\frac{1}{2}$ inches. Hardwood block, $6\frac{3}{4}x2\frac{1}{2}$ inches, tumbled in wax.

Packed 1 dozen to shipping container.
Ship. Wt., 8 Lb.....per dozen

Oxco Gong Dairy Brushes



Ox Palmetto filling, 2-inch trim. Size face $5x4\frac{1}{2}$ inches. Block $2\frac{1}{8}$ inches. Tumbled finish.

Packed 1 dozen to shipping container.

Length Block.....	inches	8	20
Shipping Weight per Dozen.....	pounds	8	13

Daisy Nail Brushes



Smooth finished, square end, hardwood block, size 5x1½ inches. Has four rows. Filled with best quality white tampico. Trimmed ¾ inch out of block.

Packed 6 dozen in a box. Weight per gross, 12 pounds.

Per Gross.....

No. 453 Radiator Brushes



Has plain handle. Brush part of black hair, 1 row; length stock, 2¼ inches; brush part, 9 in.; overall, 24 in.

No. 453.....per dozen

Oxco Red Breast Industrial Brushes



Palmetto fibre filling, wire wrapped on wooden dowel.

Shellacked shoulders, 2½ inches wide. Two rows stitching, 3½ inches fibre below.

Handle, 2¼ inches long, solid wire wrapped, with nickel ball top and hanging ring.

Shipping weight per dozen, 3 pounds.

Per Dozen.....

Ohio Counter Brushes



Recommended for factories, stores, offices, schools, etc.

Selected stiff pure black horsehair, extra full, staple set. Natural polished block.

Packed 6 in a carton.

Size.....inches	8	9	10
Per Dozen.....			
Length Stock.....inches	2⅞	2⅞	2⅞
Weight per Dozen.....pounds	9	10	11

Major Lathe or Bench Brushes



An inexpensive, practical brush for general shop, bench, or lathe work.

Made of pure black horse hair.

Natural varnished block.

Length of stock, 2¼ inches, staple set.

Packed 6 in a carton.

Length.....inches	8	9
Per Dozen.....		
Weight per Dozen.....pounds	6	7

Chief Counter or Bench Brushes



Selected grey fiber staple set. Plain finished block.

For general use in factories, machine shops, etc. The turned up end makes the brush accessible to corners, etc.

Length of stock, 2½ inches.

Packed 1 dozen in a carton.

Length of Brush Part.....inches	10
Per Dozen.....	
Weight, per Dozen.....pounds	8

Alice Floor Brushes



Selected black fiber center, black horse hair casing, staple set. Red polished block, two threaded handle holes, polished handle.

Fiber center adds a penetrating effect and the hair casing makes the brush adapted for clean sweeping.

Handles are included in the prices.

Length of stock, 2⅞ inches.

Packed in individual cartons.

Length.....inches	16	18	24
Per Dozen.....			
Weight, per Dozen.....pounds	36	39	50

Alma Floor Brushes



A heavily filled brush that is particularly adapted for use on tile, marble, or smooth wood floors in offices, hotels, residences, etc.

Made of stiff pure black horse hair, staple set. Polished block with 2 threaded handle holes.

Length of stock, 2⅞ inches.

Handles are included.

Packed in individual cartons.

Length.....inches	16	18	24
Per Dozen.....			
Weight, per Dozen.....pounds	36	39	50

Lucille Floor Sweeping Brushes



For sweeping comparatively smooth surfaces which do not necessitate a stiff penetrating brush. Used in stores, offices, hotels, etc.

Length of stock full 3 inches, staple set. Polished block, two threaded handle holes. Selected mixed black horsehair.

Length of Block.....inches	14	16	18	24
Per Dozen.....				
Weight per Dozen.....pounds	35	38	41	52

Dick Floor Brushes



Stiff palmyra fiber; staple set; length of stock, 4 inches.

Natural polished block, 2 threaded handle holes. Heavy duty handle.

Length of Block.....inches	16	18	24
Per Dozen.....			
Weight per Dozen.....pounds	45	50	62

Milwaukee General Utility Floor Brushes Vanguard



For heavy sweeping on concrete, or wood surfaces in factories, shops, garages and stores. The palmetto fiber adds cutting power and brushing resistance.

Pure palmetto center, next 2 rows of selected grey fiber. Pure black horsehair casing. Staple set. Length of stock, 3 1/4 inches. Polished block and handle, 2 threaded handle holes.

Length of Block.....inches	16	18	24
Per Dozen.....			
Weight per Dozen.....pounds	39	42	54

Joe Garage Floor Brushes



Bassine fiber, length stock 4 inches, made in 18 and 24-inch sizes. Natural varnished blocks and handles.

Milwaukee Push Broom Handles



Selected hardwood. Tapered; smoothly sanded finish. Tapered to fit holes in blocks of deck scrubs, rubber floor scrapers, push brooms, etc. Diameter, 1 1/8 inches.

No.....	350	351	352
Per Dozen.....			
Length.....feet	4 1/2	5	6
Weight per Dozen.....pounds	16	18	22

Milwaukee Floor Brush Handles



Selected hardwood. Highly polished. Natural finish. Threaded to fit holes in all standard floor brush blocks. Diameter, 1 1/8 inch.

No.....	360	361
Per Dozen.....		
Length.....feet	4 1/2	5
Weight per Dozen.....pounds	12	13

No. 1644 Remuv-All Wire Brushes



Round tempered steel wire brush part, 1 1/2 in. long.

All metal. Pressed steel ferrule.

Length overall, 5 1/2 inches. Width face, 1 1/4 inches.

Packed 12 in a carton. Weight per dozen, 1 1/4 pounds.

No. 1644.....	per gross	
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No. 1211 Fiber Push Brooms



Especially designed for street sweeping.

Solid hardwood block, 2 handle holes. Staple set. Five rows. Best quality Bass. Length stock, 6 1/4 inches. Size block, 16x3 1/2 inches.

Packed 12 in a shipping carton.

No. 1211.....	per dozen	
Sweep of Broom.....inches	22	
Weight, per Dozen.....pounds	42	

Brooms

No. 28 Janitor

A 28-pound broom, all corn, with 4 twines.

No. 28.....	per dozen	
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No. 32 Warehouse

A 32-pound broom, all corn, with 1 wire and 3 twines.

No. 32.....	per dozen	
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No. 36 Warehouse

A 36-pound broom, corn, filled with split bamboo, 1 wire and 3 twines.

No. 36.....	per dozen	
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No. 1661 Painters' Fine Wire Dusters



Length of wire, 2 3/8 inches; 4 rows,

Block 2 3/4 x 1 1/8 in.

Weight per dozen. 3 3/4 pounds.

Packed 12 in carton.

No. 1661.....	per gross	
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No. 1611 Steel Wire Scratch Brushes

Round Carbon Steel Wire—Straight Back—Solid Hardwood Block



Removes grease, rust, and dirt from any metal or wood surface.

Block 7 1/4 x 2 1/4 in. Rows 6x19. Length wire 1 3/4 in.

Packed 12 in carton.

No. 1611, Weight per Dozen, 9 1/2 Lb.....	per gross	
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No. 1665 Combination Steel Wire Scratch Brushes



Designed for removing varnish from floors, doors, etc., preparatory to refinishing. Solid block.

Brush part, 5 inches long.

Width of chiseled edge polished steel scraper, 2 7/8 inches.

Packed 1 dozen in a carton.

No.....	1665
Per Gross.....	
Size Block.....inches	1 5/8 x 11
Length Wire.....inches	1 1/2
No. of Rows.....	4x10
Weight per Dozen.....pounds	9 1/2

Shoe Handle Wire Scratch Brushes



For cleaning and removing paint, scale, rust, or dirt from wood, stone, and metal surfaces. Also used for cleaning architectural iron work, marble, etc.

Made of round wire. Solid block.

Brush part, 5 inches long.

No.	1641	1646
Per Gross.....	.....	.....
Size Block.....inches	1x10	5/8x10
Length Wire.....inches	1 1/4	1 1/4
No. of Rows	4	2
No. in Carton.....	12	24
Weight per Dozen.....pounds	5	3 1/4

Long Handle Wire Hand Brushes

Round Carbon Steel Wire—Solid Hardwood Block



Brush part is 6 1/4 inches long.

No.	1651	1656
Per Gross.....	.....	.....
Rows.....	3x19	4x19
Block.....inches	1x14	1 1/8x14
Length of Wire.....inches	1 1/8	1 1/8
No. in Carton.....	12	12
Weight per Gross.....pounds	68	78

No. 1632 Milwaukee Fine Steel Wire Brushes



The curved face of this brush makes it especially suitable for use on flat surfaces such as hardwood floors, etc. This curved feature concentrates all the energy at the point of resistance and insures smooth brushing efficiency.

Heavily filled. Length of wire, 1 1/4 inches. Rows, 9x21.

Block, 7 1/8x2 7/8 inches.

Packed 1 dozen to carton.

Weight per dozen, 10 pounds.

No. 1632.....per gross

No. 1801 Steel Wire Butcher Block Brushes



Made of flat tempered steel wire,

Has solid hardwood block, 7 3/4x2 5/8 inches.

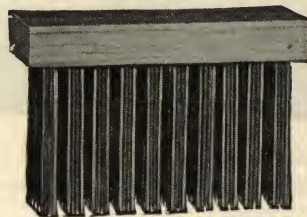
Length of wire, 1 1/4 inches; 5x10 rows,

Brushes are shipped in bulk.

Shipping weight per dozen, 10 pounds.

No. 1801.....per dozen

No. 1736 Steel Wire Casting Brushes



Flat tempered steel wire. Solid hardwood handles. 5x10 rows. Length of wire, 3 inches. Block, 7 3/4x2 5/8 inches.

Nh. 1736.....per dozen

Wire Push Brooms

Tempered Flat Carbon Steel Wire—Hardwood Block



Used by contractors. Adapted for street paving or repair work. Has two tapered handle holes. Furnished without handles.

Length of wire, 5 inches.

Shipped in bulk.

No.	1001	1002	1003	1005	1006	1007
Per Dozen.....	.....	.....	.....	.....	.....	.....
Size Block...in.	12x2 3/8	14x2 3/8	16x2 3/8	12x2 1/2	14x2 1/2	16x2 1/2
Rows.....	4	4	4	5	5	5
Wt., Doz....lb.	28	33	38	30	35	40

Wire Track or Switch Brooms

Tempered Flat Steel Wire—Hardwood Block With Plain or Chisel Attached Handles



Used by steam or electric railways and traction systems for cleaning switches, frogs, curves, etc.

First grade hardwood handle, 48 inches long. Forged steel chisel 3 inches long securely held in heavy metal ferule shrunk on handle.

Size block, 11x1 1/8 inches. Six rows wide. Length of wire, 4 1/2 inches. Shipped in bulk.

No.	Each	Description	Wt., Lb. per Doz.
1260	With Handle without Chisel Attached..	30
1261	With Handle with Chisel Attached.....	36

Wire Push Brooms

Tempered Round Steel Wire—Hardwood Block



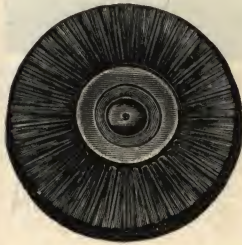
Staple set. Two tapered handle holes. Recommended for sweeping rough wood or stone floors, for scrubbing cellars,

yards, service stations, etc. Shipped in bulk.

No.	1020	1021
Without Handles.....per dozen	6	6
Rows.....	3 1/2	3 1/2
Length of Wire.....inches	12x2 1/2	14x2 1/2
Block.....inches	27	34
Weight per Dozen.....pounds		

Lustre-Brite Polishing Wire Wheel Brushes

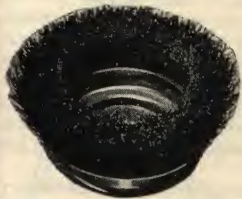
Used by platers and metal finishers on art metal goods, band instruments, builders' hardware, automobile accessories, etc. Straight fine steel or brass wire, as specified, is securely anchored in a hardwood hub with lead-filled center. Arbor hole drilled to size specified for direct mounting on shaft.



No.	Per Dozen	Diam. In.	Width of Face In.	Hub Rows In.	Size Wire In.	Wt. per Doz. Lb.
2302	3	2 1/2	1	1	.003	1 1/2
2303	3	3 3/8	1	1	.003	2 1/4
2304	3	4 3/4	1	1	.003	3
2403	4	3 5/8	1 1/2	1 1/2	.004	4 1/2
2404	4	4 3/4	1 1/2	1 1/2	.004	6
2503	5	3 3/4	2	2	.004	6 3/4
2504	5	4 1	2	2	.004	9
2603	6	3 1	3	3	.004	12
2604	6	4 1 1/4	3	3	.004	16
2804	8	4 1 1/4	4	4	.005	22
2806	8	6 1 3/4	4	4	.005	31

Sturdi-Bilt Steel Wire Cup Brushes

For Cleaning and Buffing



Used on pneumatic tools and portable equipment for heavy duty work, such as removing old paint, rust, etc. from large metal, brick or concrete surfaces. Made of crimped steel wire securely held in a cup-shaped all metal holder or back.

The 6 1/4-inch diameter brush furnished with arbor holes ranging from 1/2 to 1 1/4-inches, the 4 1/4-inch dia. from 3/8 to 1 inch.

No.	3335	3336	3337	3338	3340	3341	3342	3343
Each.....								
Approx. Diam. in.	6 1/4	6 3/4	6 3/4	6 3/4	4 1/2	4 1/2	4 1/2	4 1/2
Size Wire.....in.	.035	.023	.018	.014	.023	.018	.014	.011
Length Wire...in.	1 5/8	1 5/8	1 5/8	1 5/8	1 1/2	1 1/2	1 1/2	1 1/2
Weight Each...lb.	2 3/4	2 3/4	2 3/4	2 3/4	1 1/4	1 1/4	1 1/4	1 1/4

Can be made of coarser or finer wire if desired.

Power Operated Small Cup Brushes



Crimped steel wire rigidly secured in cup shaped metal back. Arbor hole sizes range from 3/8 to 3/4 inches.

No.	3330	3331
Each.....		
Diameter of Brushing Surface.....inches	2 3/4	3 1/2
Size of Wire.....inches	.018	.011
Weight.....pounds	1/2	1/2

Also made of coarser or finer wire than listed.

Milwaukee Steel Clad Wire Wheel Brushes



Arbor holes are punched for mounting directly on shaft without adapters. Fine wire sections furnished with either brass or steel wire.

When ordering state size arbor hole.

No.	Per 100	Diameter Inches	Thickness Through Arbor Inches	Approximate Width of Face Inches	Wire W. & M. Gage No. or In.	Weight Pounds
130	15	1 1/2	3 1/4	30, 33	13 1/4
131	12	1 1/2	5 1/8	30, 33	11 1/4
132	10	1 1/2	5 1/8	30, 33	1
133	8	1 1/2	1 1/2	33, 36	3/4
135	6	3/8	1 1/2	33, 36	1 1/2
136	5	3/8	1 1/2	33, 36	3/8
137	4	3/8	3/8	33, 36	1/4
138	3	3/8	3/8	33, 36	1/8
113	8	3/8	1 1/2	.005	3/4
115	6	3/8	3/8	.005	1 1/2
117	4	3/8	3/2	.005	1/4

Mono-Bilt Wire Wheel Brushes

Fits practically all standard portable or stationary shop equipment. Ideal for power brushing operations such as removing scale, rust, paint, weld spatter, and surface imperfections from small castings, metal parts, fittings, etc. Can be made of coarser or finer wire if desired.

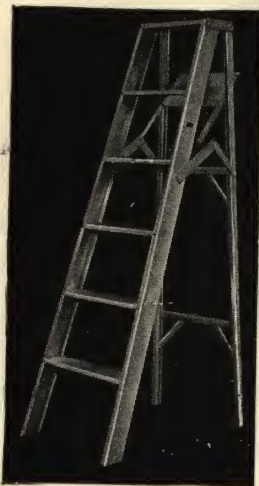
A complete all metal unit consisting of individual sections locked tightly together under tremendous pressure between two metal face plates on a tubular steel hub with flared ends. The sections are densely filled with specially tempered crimped steel wire and are machine trimmed simultaneously to produce an even brushing face that insures maximum abrasive action with quick-cutting results.

Brushes 6 inches and larger in diameter have a standard 2-inch opening into which adapters can be inserted to fit any size shaft ranging from 3/8 to 1 1/2 inches in diameter. Brushes with 4-inch diameter are made with punched arbor hole sizes ranging from 1/4 to 1-inch for mounting directly on shaft or spindle without adapters.

When ordering, specify size of arbor hole.

No.	Each	Diam. In.	Thickness Through Arbor Inches	Approx. Width of Face Inches	W. & M. Gage Wire	Wt. Lb.
101	12	2	2 1/2	33	8
121	12	1 1/4	13 1/4	33	6
102	10	2	2 1/2	33	7
122	10	1 1/4	13 1/4	33	5
103	8	1 3/8	13 1/4	33	3 1/2
123	8	1	13 1/8	33	2 1/2
105	6	1 3/8	11 1/2	33	2 1/2
125	6	1	11 1/8	33	2
3305	4	3/4	1	33	3/4
3304	4	5/8	3/4	33	1 1/2

No. 100 Aluminum Industrial Type Stepladders



Strong enough for industrial use. Lightweight and easy to store. It is suited for cleaning and painting purposes.

Made of aluminum. Has a bucket rest.

Corrugated steps are 4 inches wide. Furnished with rubber boots to prevent slipping or marring of floors.

No.	Each	Ht. to Platform Ft.	Slope	Width at Bottom In.	Wt. Lb.
100	\$34.05	4	18°	20 ³ / ₄	15
101	38.70	6	18°	23 ¹ / ₂	22
102	47.70	8	18°	26 ¹ / ₄	30
103	52.70	9	18°	27 ³ / ₄	34
104	57.60	10	18°	29	39
105	67.55	11	18°	30 ¹ / ₄	44
106	78.40	12	18°	31 ³ / ₄	48
107	87.65	13	18°	33 ¹ / ₄	52
108	97.55	14	18°	34 ³ / ₄	57

No. 400 Aluminum Industrial Platform Stepladders



For use in industrial plants, dairies, or wherever a strong platform stepladder which can be easily stored is needed.

Heavily riveted construction.

Made of 61 ST aluminum alloy which has a high tensile strength.

Platform is 14 inches wide and 17 inches deep. Steps are corrugated to prevent slipping.

No.	Each	Ht. to Platform Ft.	Slope	Width at Bottom In.	Wt. Lb.
400	\$39.30	4	18°	23 ¹ / ₂	20
401	47.45	6	18°	26 ¹ / ₄	28
402	64.30	8	18°	29	38
403	72.25	9	18°	30 ¹ / ₄	44
404	78.60	10	18°	31 ³ / ₄	48
405	87.10	11	18°	33 ¹ / ₄	52
406	98.25	12	18°	34 ³ / ₄	56

Aluminum Type DLL Ladders



A lightweight channel construction ladder designed for light industrial, home, farm and office use. Ladder weighs slightly over 1 pound per foot and will easily support a 200 pound load.

Model	Each	Length Feet	Width Inches	Wt. Lb.
DLL1	\$10.20	6	16	6 ³ / ₄
DLL2	13.60	8	16	9
DLL3	17.00	10	16	11 ¹ / ₄
DLL4	20.40	12	16	13 ³ / ₄
DLL5	23.80	14	16	16 ¹ / ₄
DLL6	27.20	16	16	18 ³ / ₄

Type DLL Aluminum Extension Ladders



Available for use where straight ladder does not suffice.

Consists of 2 sections with rope, locks and pulley.

Thickness, 5 inches.

No.	DLL-10	DLL-11	DLL-12
Each	\$38.50	45.90	53.70
Unextended Length.....feet	8	10	12
Extended Length.....feet	13	18	21
Weight.....pounds	24	30	36

Type DLL H Heavy Duty Aluminum Extension Ladders



Made in 2 sections. Fly ladder supplied with locks, pulleys and rope. Has 1-inch diameter corrugated rungs spaced 12 inches apart. Thickness 6¹/₂ inches.

No.	DLL H-10	DLL H-11	DLL H-12	DLL H-13	DLL H-14
Each	\$66.80	76.40	86.00	95.60	105.20
Unextended feet	12	14	16	18	20
Extended . feet	21	25	29	33	37
Weight..pounds	40	47	55	64	73

Series 700 Aluminum Step Ladders



A short step ladder for use in bank vaults, filing rooms, offices or other places where articles are stored in cupboards or shelves.

A 6-inch step provides ease of ascending and descending, and ample standing room for foot.

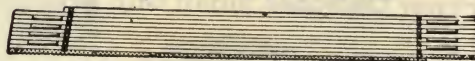
Corrugated steps. No sharp corners. Rubber feet.

Slope 27°.

Platform 12x16 inches.

No.	Each	Height Inches	Bottom Width Inches	Weight Pounds
700	\$25.75	20	17 ¹ / ₂	11
701	35.10	30	19	16

Berg Extension Planks



Made from clear Norway pine. Have rounded edges and are secured with two bolts at each end.

Size	6	7	8	10
Each	\$17.40	21.45	25.00	34.25
Extending to.....feet	11	12 ¹ / ₂	14 ¹ / ₂	18
Weight.....pounds	20	23	28	32



Berg Swing Stages

Stages over 16 feet bound with steel cable in accordance with rules of State Labor Department; shorter lengths reinforced when specified.

Length	6 to 16	18 to 20	22 to 24	26 to 30
20 In. Wide.....per ft.	\$2.75	\$2.75	\$3.07	On Ap.
24 In. Wide.....per ft.	3.35	3.35	3.90	On Ap.

Guard rail, 65 cents per foot.

Berg Sterling Ladders



For either home or factory use.

Has steel brackets on the head piece; reinforced under each step with steel rod; truss blocked; galvanized corner brackets; back braces securely fastened with steel straps; pail handle spreader.

Designed and built to conform with A.S.A. specifications.

Available lengths, 3 to 12 feet.

Weight, approximately 3 pounds per foot.

3 to 10-Feet.....	per foot	\$2.00
12-Foot Length.....	per foot	2.35

Berg Special Step Ladders

Ideal for general factory and industrial work. Sturdy, rung-back construction provided with strong steel spreader.



Made of clear ladder stock.

Steps reinforced with steel rods; sheet steel construction fastens large head piece to stile.

Weight, approximately 4 pounds per foot.

4 to 8 Feet.....	per foot	\$2.56
10 to 12 Feet.....	per foot	3.17
14 to 16 Feet.....	per foot	3.90

Berg Sturdy Favorite Ladders



For electricians and plumbers.

Stiles are clear Norway pine reinforced with steel rod and corner braces under each step; metal covered braces on legs.

Built to conform with A.S.A. specifications.

Lengths, 3 to 16 feet.

Weight, approximately 3 pounds per foot.

3 to 10 Feet.....	per foot	\$3.00
12 Feet.....	per foot	3.50
14 to 16 Feet.....	per foot	3.80

Berg Rung-Back Mechanics' Ladders



For plumbers and steam-fitters. May be used by two men at the same time.

Flat steps on front; rungs on back. Each step and rung reinforced with steel rods.

Made of clear ladder stock.

Built to conform with A.S.A. specifications.

Lengths, 4 to 24 feet.

Weight, approximately, 5 pounds per foot.

4 to 12 Feet.....	per foot	\$3.60
14 to 16 Feet.....	per foot	5.40
18 to 24 Feet.....	per foot	5.95

Equipped with steel spreader, \$5.00 extra.

Berg Safety Platform Ladders

For mechanics. Large strong platform gives ample standing room.

Steps braced with rods and corner braces; runs braced with metal braces. Side spreader is standard equipment on ladders 8 feet and over.



Built to conform with A.S.A. specifications.

Lengths, 4 to 18 feet.

Weight, approximately 5 pounds per foot.

4 Feet to Platform.....	each	\$27.50
5 Feet to Platform.....	each	31.90
6 Feet to Platform.....	each	35.95
7 Feet to Platform.....	each	40.35
8 Feet to Platform.....	each	46.75
10 Feet to Platform.....	each	58.90
12 Feet to Platform.....	each	77.20
14 Feet to Platform.....	each	90.75
16 Feet to Platform.....	each	108.45
18 Feet to Platform.....	each	128.25

Berg Trestles



Sides made from very best lumber, rungs from second growth hickory.

An improved hinge at top makes trestles stand solid and wear long, relieves all pressure at top.

Lengths, 6 to 16 feet.

Weight, approximately 3¼ pounds per foot.

6 to 12 Feet.....	per foot	\$2.90
14 to 16 Feet.....	per foot	3.05

Berg Extension Trestles



Can be raised or lowered at will when trestles are open.

Easy and quick to operate.

Size Feet	Each	Extended Feet	Weight Pounds
6	\$45.85	10	48
8	53.45	14	64
10	61.20	18	80
12	70.50	22	96
14	79.20	24	102

Berg Ladders Shafting

Made of fir and western hemlock.

For factory use where shafting has to be reached. Provided with hooks and spurs.

Lengths, 8 to 20 feet. Wt., approx. 2½ lb. per ft.

8 to 20 Feet.....per foot \$2.05

Straight or Farm

Spurs and rods furnished when specified.

Lengths, 6 to 30 feet.

Weight, approximately 2½ pounds per foot.

6 to 20 Feet.....	per foot	\$1.37
6 to 20 Feet, with 3 or 4 Rods.....	per foot	1.50
6 to 20 Feet, with Rod under each Rung.....	per foot	1.85
22 to 24 Feet.....	per foot	1.60

Price upon application for 26 to 30 feet.

Fruit Pickers

For fruit picking and tree pruning.

Lengths, 6 to 20 feet. Wt., approx. 2½ lb. per ft.

6 to 20 Feet.....per foot \$1.75

Berg Extension Ladders

Made in three basic constructions: plain, rodde and braced, and full rodde. Specify type when ordering.

Made in sections from 8 to 24 feet. Sides are high grade ladder stock, thoroughly seasoned; rungs are second growth hickory.

Plain

With heart-shaped hook with wide lip, preventing hook from slipping over stile. With automatic hook if specified (extra). Approximate weight per foot, 2½ pounds.

Two Sections

Size.....feet	16 to 40	44 to 48
Per Foot.....	\$1.52	2.00

For 26 to 28-foot sections, prices upon application.

Three Sections

Up to 60 Feet.....	per foot	\$2.07
Equipped with Rope and Pulley, Add. . .ea.		11.00

Rodde-and-Braced and Full Rodde

Full rodde has steel rod under each rung for strength.		
Size.....feet	16 to 40	44 to 48
Rodde and Braced.....per foot	\$1.85	\$2.00
Full Rodde.....per foot	2.00	2.15

**Steel Cornice Hooks****Berg Steel Cornice Hooks**

Can be furnished with ring.

Stock sizes, 16 and 20 inch opening. Special sizes made to order.

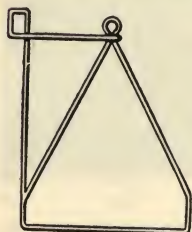
Per pair.....\$38.70

Steel Stirrups

With guard rail attachment.

Stock sizes, 24 and 30 inch opening.

Per pair.....\$30.00

**Steel Stirrups****Painters' Falls**

We carry a complete line of blocks, falls, ropes and guy lines.

Rope sizes, 5/8, 3/4 and 7/8 inch.

Further information upon request.

Bettcher Ladder Jacks

This jack is used by painters and builders.

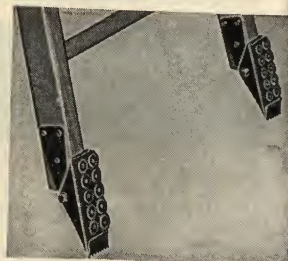
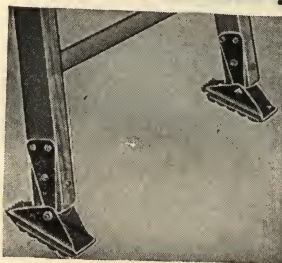
Made of the best open hearth steel ¼ and 5/16 inch thick, which makes a safe scaffold without being cumbersome.

Can be placed in any position desired.

Packed in bags, each bag containing 6 pairs.

Shipping weight per bag, 130 pounds.

Prices upon application.

Duo-Safety Ladder Shoes

Ladders cannot slip, creep or skid when equipped with Duo-Safety Ladder Shoes. The injuries caused by ladders slipping can be eliminated almost entirely by equipping them with suitable safety shoes. These shoes will fit practically any size ladder rail. They can be used both indoors and outdoors by merely flipping the shoe from the horizontal to the vertical position.

Gripping and vacuum properties make it adaptable for most surfaces. Can easily be attached to the side rails.

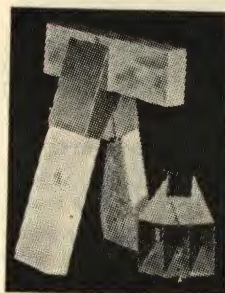
All metal parts of these shoes are cadmium plated to insure them against rusting.

Sharp spike toe is made of case hardened steel. Vacuum pad sole made of pure gum rubber; 10 square inches of suction-gripping area to the sole. Worn out pads can be quickly and economically replaced on old shoe bodies by simply knocking out the rivets and inserting new pads.

Per Pair.....

Painters' Drop Cloths

Size.....feet	9x12	12x15	14x16
Weight.....pounds	7	12	14
Cloths.....each	.....	.....	.....

Panellit Ironorse Metal Joints

For quick, easy construction of saw horses, lumber racks, carpenter scaffolds, party tables, etc.

Constructed of finished steel. Fits standard size 2x4 finished lumber.

Makes saw horses or trestles any height, any length, for temporary or permanent use.

Because of the scissor grip, heavy loads provide tighter holds.

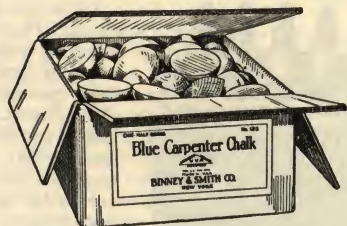
Packed 4 to a set, 1 set to a carton; 1 set makes 2 complete saw-horses.

Shipping weight per set, 7½ pounds.

MECHANICS TOOLS

We invite you to our Store to examine our complete assortment of Tools of all kinds.

Carpenters' Chalk



For marking chalk line, patterns, etc.

Packed 72 pieces in a corrugated box; 5 gross in a carton. Weight per carton; white, 52 lb., blue, 55 lb.

No. 130, White.....per gross \$3.00
No. 132, Blue.....per gross 3.50

UVA Brand Railroad Chalk Crayons



Made for a wide variety of uses, ranging from marking box cars to chalking work on lay-out tables for drill presses and other machine shop operations.

The crayons are 4 inches long and 1 inch in diameter.

Furnished in white and blue.

One gross in a box, 5 gross in a case. Shipping weight, 70 pounds per case.

White.....per gross \$2.50
Colored.....per gross 3.00

No. 307 Atlantic White Chalk Crayons



Made from purest ingredients.

Free from lumpy or gritty substances. Put up in cardboard boxes; 100 gross to case.

Weight per case of 100 gross, 250 pounds.

No. 307, Full Case (100 Gross).....per gross \$.54

Dixon's Carpenters' Pencils



For marking on lumber and building board.

Flat shape and flat lead have made this pencil extremely popular among carpenters.

Bright red color, black bevel makes it easy to see and pick up when dropped in shavings.

Banded in dozens; packed 1/2 gross in a box.

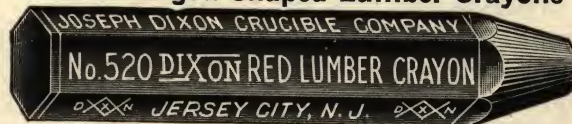
No.	997S	997H	998S	998H
Per Gross.....	\$12.00	12.00	14.40	14.40
Grade.....	Soft	Hard	Soft	Hard
Length.....inches	7	7	9	9

Metalworkers' Crayons



Dimensions.....inches 1/4 Round x 5 1/4x1/4x5 3/16x1/2x5
Per Gross.....

Dixon Hexagon Shaped Lumber Crayons



Size 4 1/2 x 1 1/2 in. Twelve in box; 6 boxes in ctn. Wt. per ctn., 6 lb.

Regular Grade			Medium Grade		
No.	Per Gross	Color	No.	Per Gross	Color
492	\$17.30	Pink	361	\$17.30	Black (Graphite)
493	17.30	Purple			Hard Grade
494	17.30	Carbon Black	362	\$17.30	Black (Graphite)
495	17.30	Brown	485-H	48.00	Purple (Indelible)
496	17.30	Yellow			Soft Grade
497	17.30	Terra Cotta	365 1/2	\$17.30	Black (Graphite)
520	17.30	Red	485-S	48.00	Purple (Indelible)
521	17.30	Blue	520 1/2	17.30	Red
522	17.30	Green	521 1/2	17.30	Blue
523	17.30	White			Very Soft Grade
525	17.30	Aluminum	365	\$17.30	Black (Graphite)

Redington Counting Machines

Operates by movement of ratchet lever through an arc of about 45 degrees. Lever can be set in any one of four angles.

Will count up to a speed of 400 per minute.

Has five white figures double injected into the black rim of the plastic counter wheel. Working parts constructed entirely of steel.

Size, 3 1/4 inches wide, 2 1/16 inches high and 2 1/8 inches deep.

Furnished with mounting bracket for attachment to any machine.

Model AR: Has knob reset for returning counter to zero.

Model A: Does not have knob reset but can be re-

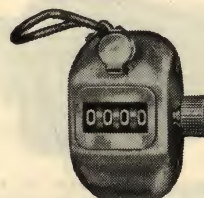
turned to zero by turning over wheels.

Model ARL: Lock reset counter.

Model.....	A	AR	ARL
Each.....	\$8.25	10.25	11.75
Overall Width, Incl. Bracket....inches	4 1/2	4 1/2	4 3/4
Shipping Weight.....ounces	23	24	28

Series 1023 Veeder-Root Hand Tallies

Reset

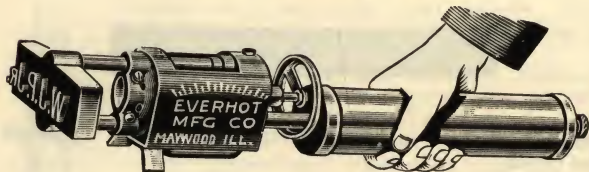


Can be set to zero by one turn of knob. Case is small and has rounded edges. Can be held in either hand. White figures on black background.

Four figure-wheels only. Lubrication is unnecessary. Baked lacquer finish.

Series 1023each \$8.30

Everhot Branding Tools



This tool is made in sizes from small single burner types up to large 2-burner types with 1½-gallon fuel tanks.

The 2-burner type Everhot will heat a large brand just as rapidly as the small 1-burner type will heat a small brand.

Holder No. 1 will hold five 1-inch characters, seven ¾-inch characters or eight ½-inch characters.

Holder No. 2 will hold three 2-inch characters or four 1½-inch characters.

Holder No. 2-A will hold sixteen 1-inch or nineteen ¾-inch characters.

Holder No. 3 is a 2-line holder. Holds twelve 1-inch characters per line or fourteen ¾-inch characters.

Individually mounted numerals and letters are made in ½, ¾ and 1-inch sizes at \$1.10 each; and 1½ and 2-inch sizes priced at \$1.40 each.

All torches will handle brands of special design, made to order.

No.	20	30	93
Torch.....	each	\$14.00	15.50 37.50
No. 1 Holder.....	each	7.50	7.50
No. 2 Holder.....	each	9.00	9.00
No. 2-A Holder.....	each		12.50
No. 3 Holder.....	each		17.50
Capacity.....	pints	¾	1 8

Vulcan Electric Branding Appliances



Lettering Brand

These efficient branding tools are valuable in identifying property and advertising merchandise. The applications include brands used by governments, municipalities, railroads, steamship companies, agriculturists, private individuals, etc., in identifying property; also names and trade marks of the makers of an endless variety of manufactured goods.

There are innumerable uses for these brands, including electrotypes, bottle corks, gloves, paper, lumber, rubber goods, leather goods, shipping cases, barrels, spools, bakelite, etc. The imprints are there to stay.

Send sketches of desired imprints for estimates.

No. VG-350 Burgess Vibro-Graver Marking Tools

110-125 Volts, 60 Cycles, A.C.



Writes like a pencil on glass, steel, plastics, wood and other hard surfaces.

Engraves lines, letters, initials, etc. on curved or flat surfaces. Measures 5x1¾x1½ inches. Only one adjustment. Works by vibration, 7200 vertical strokes per minute. No. V3 hard tanalum carbide point.

Packed in hinged-top carton. Weight, 9 ounces.

No. VG-350, Complete.....	each	\$9.95
No. V3, Replacement Point.....	each	1.50
No. V80, Diamond Point, for Hard Steel, Glass.....	each	5.95
No. V45, Ball Point, for Foil, Soft Materials....	each	.15

Millers Falls Steel Letters and Figures

Machine Made—Roman Face



Characters are formed on blanks of tool steel by a specially developed machine process, producing sharp, clean faces. Ample relief is provided to produce clear, long-lived impressions. Faces are carefully hardened and tempered.

Sets of letters, sizes ½ through ¼-inch, consist of 28 characters, including & and a period.

Letters

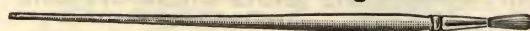
iod; sizes ⅝ through ½-inch consists of 27 characters, the period being omitted.

Sets of figures consists of nine characters from 0 to 8, the 6 is used for the 9.

Each set is packed in a wood box.

Height Character Inches	No. 1500 Letters per Set	No. 1550 Figures per Set	Single Characters Each	Size Stock Inches
1/32	\$8.25	\$2.75	\$.45	7/32x23/8
1/24	8.25	2.75	.40	7/32x23/8
1/20	7.45	2.50	.40	7/32x23/8
1/16	5.80	1.95	.35	7/32x23/8
1/12	5.80	1.95	.35	7/32x23/8
3/32	5.80	1.95	.35	7/32x23/8
1/10	5.80	1.95	.35	7/32x23/8
1/8	5.80	1.95	.35	1/4x21/2
5/32	6.60	2.20	.40	1/4x21/2
3/16	7.45	2.50	.40	5/16x21/2
7/32	8.25	2.75	.45	5/16x21/2
1/4	9.10	3.05	.45	3/8x25/8
5/16	10.75	3.60	.50	3/8x25/8
3/8	13.20	4.40	.60	7/16x23/4
7/16	14.85	4.95	.70	1/2x23/4
1/2	18.15	6.05	.75	5/8x3

Round Bristle Marking Brushes



White bristle stock; round tin ferrule; long, round, plain cedar handle. Packed 1 dozen in a bundle.

Size No.....	1	2	3	4	5	6
Per Dozen.....	\$1.74	2.00	2.26	2.54	2.80	3.12
Diameter.....inches	1/32	5/32	7/32	15/64	8/32	9/32
Stock Out.....inches	5/8	3/4	7/8	15/16	1	1 1/8
Weight per Dozen. oz.	2	2 1/2	3	4	4 1/2	5

Camel Hair Marking Brushes



Camel hair stock; round tin ferrule; long round natural polished

handle. Packed 1 dozen in a bundle.

Size No.....	1	2	3	4	5	6
Per Dozen.....	\$2.66	3.34	3.66	4.00	4.66	5.34
Diameter.....inches	7/64	5/32	6/32	7/32	1/4	9/32
Stock Out.....inches	5/8	3/4	7/8	1	1 1/8	1 1/4
Weight per Dozen. oz.	3	3 1/2	4	4 1/2	5	7

No. 15-27 Improved Stencil Brushes



Best black Chinese bristle stock, set in rubber. Solid nickel-plated steel ferrule. Turned polished wood handle. Brush is machine driven into the ferrule and fully guaranteed to hold.

Nos. 44 to 110 are packed 12 in a box; other Nos. packed 6 in a box.

Size No.	Per Doz.	Stock Out In.	Diam. In.	Wt. Lb. per Doz.	Size No.	Per Doz.	Stock Out In.	Diam. In.	Wt. Lb. per Doz.
22	\$18.34	1 1/4	3/4	1	220	\$34.00	1 3/4	1 5/8	4 5/8
44	20.00	1 1/4	1 1/16	1 3/4	330	41.33	1 7/8	1 11/16	5 5/8
66	22.00	1 3/8	1 1/8	2 1/8	440	50.00	2	2	6 5/8
88	24.00	1 1/2	1 3/16	2 3/4	660	66.66	2 1/4	2 1/4	8 5/8
110	26.66	1 5/8	1 1/2	3 3/8	...	...	...	...	...

Marsh Fountain Brushes For Stenciling—Press Button Control



For use with paper or metal stencils for marking all kinds of shipments. Handle holds three liquid ounces ink which will stencil approximately 1000 addresses. Flow of ink regulated by pressing and releasing the button. Ink flows directly from valve to brush tip.

Black or colored ink may be used.

Handle is one piece heavy brass shell, nickel-plated, with knurled, non-slip grip. Aluminum die-casting, strong accurate. Lock tight threads on button. Special washers make brush leak-proof.

Brush tip is genuine black China bristle set in rubber. Screws onto holder.

No.	Comp. Each	Description	Diam. In.	Size	Tips No.	Each
FB-25	\$5.00	Press Button	1½	Regular	FB-15	\$1.75
FB-26	5.50	With Cover	1	Midget	FB-20	1.75
FB-30	7.00	Giant	2½	Giant	FB-79	2.75

Regular size generally furnished. Midget size tip fits regular brush. Complete brush must be bought if giant size is desired.

Reese Tool Room Checks

20-Gage Brass

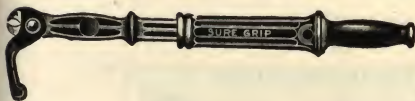
Blank



With one standard hole.

No.	57	58
Per 100		
Diameter	1	1¼

No. 56 Suregrip Nail Pullers



Forged steel shank with hand guard. Automatic claw. Central grip of claws. Broad foot.

Box joint at jaws. Size, 18 inches.

Packed 3 dozen in a case; weight, 155 pounds.

No. 56.....per dozen \$38.00

Hooker Crate Openers



A pocket tool for opening boxes, crates, barrels, prying off lids, hammering, etc. Has a cleft or hook in the side. This makes it effective

for pulling nails which cannot be drawn with end. A nail can be gripped in most any position and at just the right angle to pull easily. One face of hammer head is scored, one plain polished.

Weight, 15 ounces; length, 9 inches; 6 in a box.

Forged from a bar of fine quality steel in one piece. Carefully hardened and tempered, and finished.

No. 40, Natural Fin., Part Pol.....per doz. \$12.40
No. 42, Polished, Heavily Z. P.....per doz. 19.50

No. 70 Nox Tox Crate Openers

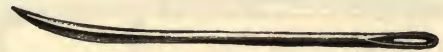


Length, 9 inches over all. Weight, 14 ounces. Has a hardened head, tempered claw. One hammer head scored, one plain. Packed 6 in a box. Natural oil finish; polished claw.

No. 70.....per dozen \$9.40

No. C5061 James' Best Steel Packing Needles

Curved Point



Packed 3 dozen in a box.

Size.....	3	4	5	6	7	8	10
Per Gross...	\$4.50	6.00	8.00	10.00	15.00	18.50	33.50
English Wire							
Gage No..	14	12	10	9	7	6	4
Ship. Wt. per							
Gross..lb.	½	1⅓	2¼	3⅜	5⅓	8⅓	15½

No. 280 Johnson Box Hooks



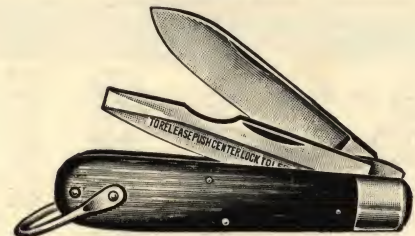
Natural finish, polished hardwood handles.

Made of ⅜-inch round spring steel.

Packed 12 in a box.

Length under Handle.....inches	6	7	8
No. 280.....per dozen			
Weight per Dozen.....pounds	5	6¼	6½

No. 260 Utica Kutmaster Electrician's Knives



Genuine rosewood, 3¾-inch length handle; spear blade and combination screwdriver blade that locks; insulation cutter, wire scraper. Polished bolsters; brass lining. With shackle ring. Weight per dozen, 2⅞ pounds.

No. 260.....per dozen

Sloyd Knives



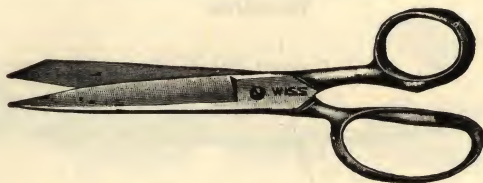
No. 0, Blade 1¾ Inches Long.....per dozen \$6.60



No. 1, Blade 2⅝ Inches Long.....per dozen \$8.00

No. 1½, Blade 3 Inches Long.....per dozen \$10.00

Wiss Straight Trimmers



Trimmers 10 inches or over are made with two sharp points; smaller sizes, with one sharp and one blunt point.

Made with crucible steel inlaid blades. Sizes 9 inches and larger are fitted with special steel screw and nut.

Full Length Inches	Full Nickel Plated		Japanned Handles		Length Cut Inches	Weight Pounds per Doz.
	No.	Each	No.	Each		
6	136	\$3.50	36	\$3.00	2 3/4	2
6 1/2	136 1/2	3.65	36 1/2	3.15	3	2 5/8
7	137	3.75	37	3.25	3 1/4	3
7 1/2	137 1/2	4.00	*37 1/2	3.35	3 1/2	3 1/2
8	138	4.25	38	3.50	3 3/8	4 1/4
9	.....	.....	39	4.25	4 1/4	6
10	.....	.....	30	5.50	5	9

*For use with left hand, \$3.65.

Wiss Bent Trimmers



For use by professional cloth cutters, dressmakers, etc. Handles are bent up so material can be cut lying flat.

Trimmers 9 1/2 inches or over are made with two sharp points; smaller sizes, with one sharp and one blunt point.

Made with crucible steel inlaid blades. Sizes 9 inches and larger are fitted with special steel screw and nut.

Full Length Inches	Full Nickel Plated		Japanned Handles		Length Cut Inches	Weight Pounds per Doz.
	No.	Each	No.	Each		
6	126	\$3.50	26	\$3.00	2 1/2	2
7	127	3.75	27	3.25	3 1/8	3
7 1/2	127 1/2	4.00	27 1/2	3.35	3 3/8	3 1/2
8	128	4.25	28	3.50	3 3/4	4 1/2
8 1/2	.....	.....	28 1/2	3.75	4	5 1/4
9	.....	.....	29	4.25	4 1/4	6 3/4
10	.....	.....	20	5.50	5	9 1/4
11	.....	.....	21	6.00	5 3/8	10 3/4
12	.....	.....	22	7.50	6 1/4	14 1/2
13	.....	.....	23	8.00	6 3/4	18 3/4

Bent Trimmers

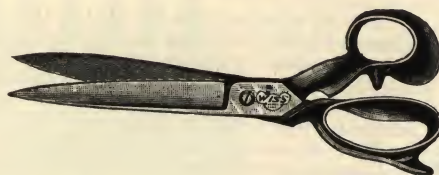


Heavy Pattern. Raised blade, nicked, with japanned handles. Packed six in a box.

No.	Full Length Inches	Length of Cut, Inches	Each
20W	10	4 7/8	\$6.50
21W	11	5 3/8	7.25
22W	12	6	8.00

Fitted with steel screw and nut at a small additional cost.

No. 4 I.S. Wiss Carpet or Upholsterers' Shears



Crucible steel inlaid blades.

Fitted with steel screw and nut.

Japanned handles; polished blades.

Length overall, 12 inches; length of cut, 6 1/4 inches.

Average weight each, 1 5/8 pounds.

No. 4 I. S. each \$10.75

Wiss Tailors' and Upholsterers' Shears N Pattern



Crucible steel inlaid blades, polished. Japanned handles.

No.	Light Pattern		Heavy Pattern		
	3N	4N	5N	6N	7N
Each	\$17.00	18.00	24.00	25.00	27.00
Full Length.....inches	12	12 3/4	13	13 1/2	14
Length of Cut...inches	6 1/8	6 1/2	6 3/8	6 3/4	7
Weight.....pounds	1 3/4	1 3/4	2 1/4	2 3/8	2 1/2

No. A Wiss Pinking Shears

For Industrial Use



For use on heavy fabrics, aeroplane cloth, swatches and tailors' samples.

Made with aluminum bodies and replaceable high carbon steel blades. Black enameled handles.

Length overall, 10 1/2 inches. Length of blade, 3 7/8 inches.

Packed 1 in a box. Weight, boxed, 10 3/4 ounces.

No. A. each \$9.95

Wiss Stationers', Bankers' or Paperhangers' Shears



Frame is drop forged from special steel. Blades have a piece of fine crucible steel welded to the inner side. This crucible steel takes a high degree of temper and will hold a sharp edge for a long time.

Packed 6 in a box.

No.	80	82
Each	\$4.75	6.50
Full Length.....inches	10	12
Length of Cut.....inches	5 1/2	7 1/8
Weight per Dozen.....pounds	5 1/2	8 1/2

Oil Cloth and Pruning Knives



Fiber finished handle, riveted.
 No. 1, with 3-Inch Blade.....per dozen \$10.00
 No. 2, with 3 $\frac{3}{8}$ -Inch Blade.....per dozen 13.20

No. 0 Roofing Knives



Famous for cutting qualities and durability. Has 2-inch blade.
 Packed one dozen in box.

Weight per dozen, 1 $\frac{1}{2}$ pounds.
 No. 0.....per dozen \$6.60

No. 199 Stanley Fiber Board Knives



Cuts through fiber insulating board with ease. To trim or elaborate on designs

made with fiber board cutters; carve linoleum or rubber printing blocks; open cartons; cut paper, cardboard, leather, asbestos or for any work that requires a tool of razor-edge keenness.

Made of aluminum. Furnished with pointed razor edge cutters, but other razor edge cutters can be used.

Length, 6 inches.

Furnished with 5 blades.

Packed 6 in a carton; weight per carton, 1 $\frac{1}{4}$ pounds.

No. 199.....each \$1.50

Extra Blades

No. 1991, Reg. Type; 2 $\frac{3}{16}$ x.017 Inches.....pkg. of 5 \$5.50
 No. 1992, Hvy. Duty Type; 2 $\frac{1}{16}$ x.025 In.....pkg. of 5 .60

Pattern Makers' and Shirt Cutters' Blades



No. 0, Collar and Cuff Blade



No. 1, Pattern Makers' Blade



No. 2, Pattern Makers' Blade

Blade made of steel.

Weight per dozen, 1 pound.

No.	0	1	2
Per Dozen.....	\$5.20	6.60	8.00
Width.....inches	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{5}{8}$
Length.....inches	6	8	9

Pattern Makers' and Shirt Cutters' Handles



Non-corrosive metal. Rosewood handle.

No.	1	2
Per Dozen.....	\$26.40	30.00
For Blade Width.....inches	$\frac{1}{2}$	$\frac{5}{8}$
Length.....inches	4 $\frac{1}{8}$	4 $\frac{3}{8}$
Weight per Dozen.....pounds	2 $\frac{1}{2}$	3

Murphy's Square Point Shoe Knives



Best cutlery steel blade. Closed ferrule. Maple polished burnt finish handle riveted. Packed 1 dozen in a box.

No.	1	2	3	4	5
Per Dozen.....	\$5.30	5.30	5.30	6.60	8.00
Blade Length.....inches	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$

Murphy Rubber Knives



Best crucible steel blade. Fibre finished handle riveted. Available in 3 different styles: Square point, sharp point and curved edges.

Packed one dozen in a box.

No.	5	6	7
Per Dozen.....	\$8.00	10.00	12.00
Length of Blades.....in.	4	5	6
Weight per Dozen.....lbs.	2	2 $\frac{1}{2}$	3

No. 900 Ink Knives



Genuine Cocobolo handle secured to tang of blade with three brass pins.

Packed 6 in a box.

Length of Blade.....in.	6	8	10
Wt., per Dozen.....lbs.	4	5	6
No. 900.....doz.	\$24.00	30.00	36.00

No. 9003 Lamson & Goodnow Carbon Steel Spatulas



Rosewood handle, no bolster, brass rivets.

Size Blade Inches	Regular Blade per Doz.	Elastic Blade Per Doz.	No. in Box	Weight Pounds per Dozen
3x $\frac{9}{16}$	\$7.80	.....	12	1
4x $\frac{10}{16}$	8.40	.....	12	1 $\frac{1}{4}$
5x $\frac{13}{16}$	9.60	.....	12	1 $\frac{1}{2}$
6x $\frac{15}{16}$	10.20	\$12.00	6	2 $\frac{1}{2}$
8x1 $\frac{1}{16}$	13.20	16.20	6	3
10x1 $\frac{10}{16}$	19.80	24.00	6	4 $\frac{1}{4}$
12x1 $\frac{12}{16}$	27.00	33.00	6	5 $\frac{1}{2}$
14x1 $\frac{14}{16}$	33.00	42.00	6	6 $\frac{1}{2}$

No. 3000 Arrow Glass Scrapers



For office, factory, store and home.

Constructed from high grade steel. Securely clamps razor blades.

Handles afford firm, comfortable grip without injuring hand. Slipover guard can be used as screwdriver in replacing blades; also protects razor blade when scraper is stored or carried in tool kit.

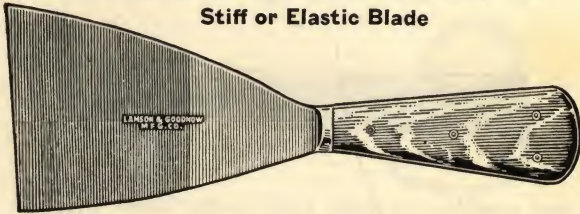
Finished with heavy coating of nickel to prevent rusting. Individually mounted on display card.

Weight 2 ounces.

No. 3000.....per 24 \$2.31

No. 9806 Lamson Painters' Scrapers

Stiff or Elastic Blade



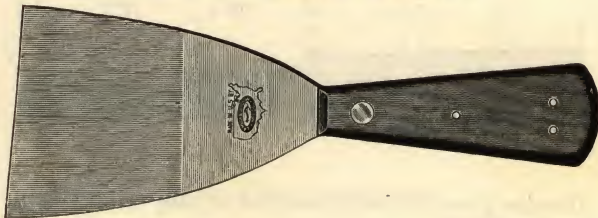
Rosewood handle, secured to tang of blade with four pins. Stiff or elastic, forged steel blade.

Specify type of blade desired when ordering.

Packed 6 in a box.

Width Blade.....inches	3	4	5
No. 9806, Stiff Blade.....per dozen	\$30.00	36.00	48.00
No. 9806, Elastic Blade....per dozen	33.00	42.00	60.00
Weight per Dozen.....pounds	3½	4¼	5

No. 9103 Lamson Scrapers



Rosewood handle, brass rivet and pins. Polished steel blade.

Packed 6 in a box.

Blade Width at Point.....inches	3	3½	4
No. 9103, Stiff Blade.....per dozen	\$13.20	\$15.00	\$16.80
No. 9103, Elastic Blade....per dozen	14.40	16.20	18.00
Weight per Dozen.....pounds	4¼	4½	4¾

No. 125 Bridgeport P-B Scrapers



For removing old paint and wall scraping, also used extensively by bakers for cleaning pans, etc. Fitted with rust-proof screws, an exclusive feature. It can consequently be kept clean and sanitary by washing without rusting out the screws.

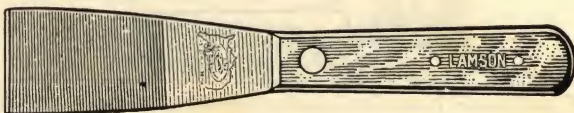
Blade is made of roll tempered steel. Beech handle, natural finish. Made in two widths of blade, 3½ and 4 inches.

Two gross in case; weight, 120 pounds.

Price, No. 125.....per gross \$33.00

No. 926 Lamson Putty Knives

Stiff or Elastic Blade



Rosewood handle. Polished steel blade, brass rivet and pins.

Packed 12 in a box.

Weight per dozen, 2 pounds.

Width Blade.....inches	1¾	2
No. 926, Stiff Blade.....per dozen	\$9.00	\$10.20
No. 926, Elastic Blade....per dozen	9.60	10.80

No. 8116 Putty Knives



Blade is of polished steel. Beech handle is secured to tang of blade with 3 steel pins.

Packed 1 dozen in a box.

Width of Blade.....inches	1¼
No. 8116, Stiff Blade.....per dozen	\$4.80
No. 8116, Elastic Blade....per dozen	5.40
Weight per Dozen.....pounds	1⅞

Triangle Glaziers' Points

Zinc Coated Steel

Actual Size Illustrations



No. 00



No. 0



No. 1



No. 2



No. 2½



No. 3



No. 4

Packed in ¼-pound papers, 12 in a carton.

No. 01 Fletcher Green Handle Glass Cutters



For sheet glass and general glass cutting. Equipped with standard ⅝-inch wheels. Hard bronze bearings; Streamline finger fit handles; distinctive gold tip.

No. 01, Weight per Gross 10 Pounds..... each \$3.35

No. 023 Red Devil Glass Cutters

The ball knob, glass cutter developed for use in cutting all types of glass wherever tapping is advisable (not used for cutting plate glass). Machine made, uniform alloy steel wheels. Easy finger rest handle.

Long reach head. Pregreased. Overall length, 5 inches. Packed 12 in display box; 5 gross in case.

No. 023, Weight per Case, 50 Pounds..... each \$3.35

No. 1 Millers Falls Turret Head Glass Cutters



Selected steel turret, with six finest quality wheels. Axles integral parts of the turret. Length, 5⅞ inches.

Hardwood handle with buffed nickel ferrule.

Packed 1 in a box; 12 boxes in a display carton.

No. 1, Weight per dozen, 14 ounces.....per dozen \$7.50

No. 478 Goodell-Pratt Circular Glass Cutters

Graduated beam cuts circles from 2 to 12 inches in diam. Has a high grade cutter wheel. Made of finest steel alloy. Packed 1 in a box. Wt. per doz., ½ lb.

No. 478.....each \$2.20
Type C Extra Wheels.....per dozen 1.00

Witt Underground Garbage Receivers



Garbage receptacle is out of sight, sanitary, odorless, dog, fly and vermin proof. Cannot be upset. Contents will not freeze in winter or ferment in summer. Can be quickly and easily installed in the ground, concrete walk or porch.

Complete assembly consists of a non-breakable 11-gage, pressed steel top, a 16-gage steel shell fitted with cross braces and a heavy gage, corrugated, garbage can.

The top, shell and inside can are hot-dip galvanized after fabrication and the top and shell are guaranteed for 10 years.

No.	Each	Trade Cap. Gal.	Shell I.D. Inches	Ht. Shell Inside Inches	Ship. Wt. Lb. with Can
U-8	\$18.70	8	15½	13¾	38
U-12	21.40	12	15½	19	42
U-15	24.60	15	15½	24½	52
U-20	28.80	20	18¾	24¾	66

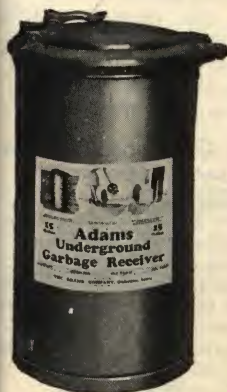
Adams Underground Garbage Receivers

Complete receiver consists of a galvanized inner can with bail handle, copper alloy steel outer shell, and cast iron cover painted green. Malleable iron hinges; brass hinge pins.

Inside can is easily removed.

Lid opens when a slight pressure is applied on foot lever.

Packed 1 in a carton.



No.	Receiver Complete Each	Inner Can Only Each	Cap. Gal.
8	\$18.00	\$6.00	8
12	19.50	6.75	12
15	21.00	7.50	15
20	28.50	10.00	20
25	34.50	12.00	25

No.	DIAM. IN.		DEPTH IN.		Wt. Lb. Comp.
	Shell	Inside Can.	Shell	Inside Can.	
8	15¼	14¼	15	13	53
12	15¼	14¼	21	19¼	60
15	15¼	14¼	26	24	68
20	19	16½	27	24	80
25	19	16½	30½	27	86

Witt Ash and Refuse Cans



Made from special analysis steel. No. 10 made of 23-gage steel throughout. Other sizes have 23-gage steel in sides and 21-gage steel in bottom.

The body is of one piece, lock seamed and electrically welded. One of the side handles is placed near the side seam to prevent it from being struck when emptying.

Corrugations are deep, well-rounded and closely pitched.

Heavy, one-piece, solid beaded steel bands riveted at top and bottom take all the wear.

Hot-dip galvanized after entirely assembled in black.

No.	10	0	1	2	3
With Cover.....each	\$7.20	\$10.40	\$11.20	\$12.70	\$13.90
Without Cover.....each	6.10	9.20	9.80	11.00	12.00
Covers Only.....each	1.10	1.20	1.40	1.70	1.90
Capacity.....gallons	12¼	16	20	27	33
Diameter.....inches	14½	14¾	16	18¼	20¾
Height.....inches	18½	26	26	26	26
Weight.....pounds	14	22½	27¾	31¼	36

Witt Garbage Pails



The body is of one piece, lock seamed, deeply corrugated. Stout bail handles are formed to lock the cover on when the handle is in the carrying position. One piece, electrically welded bands, spot welded and riveted on at top and bottom. Bottoms are slightly concave to give maximum strength. Lids fit snugly and retain their shape. Hot-dip galvanized after entirely completed in black; water-tight.

Steel in body is 24 gage; in bottom and lid, 23 gage.

No.	With Cover, Ea.	Without Cover, Ea.	Covers Each	Diam. In.	Ht. In.	Cap. Gal.	Wt. Lb.
7	\$4.50	\$3.60	\$0.90	11½	12¾	5	9
8	5.00	4.00	1.00	13½	12¾	6¾	10¼
9	6.00	4.90	1.10	14½	12¾	8¼	11½
9½	6.40	5.40	1.00	13½	18½	10	12¼



Wheeling Dura-Zinc-Alloy Garbage Cans

With Bail Lock Cover
Hand Dipped, Galvanized

Deep corrugations, scientifically constructed, provide a strong, lasting tapered body. Body is double seamed with raised bottom; leakproof. Cover locks when bail is raised.

Can be equipped with drop side handles and regular cover, when so specified. Wired 6 in a bundle.

No.	704	706	708	710
Per Dozen.....	704	706	708	710
Capacity.....gallons	4½	6	8½	10
Top Diameter.....inches	12	12¾	14¾	14¾
Bottom Diameter.....inches	10¾	11¾	12¾	12¾
Height.....inches	11¾	13¼	14¾	17¾
Weight per Dozen.....pounds	52	64	79	88

Wheeling Dura-Zinc-Alloy Garbage Pails

Hand dipped after forming—leakproof.

Tapered corrugated bodies are nestable.

Equipped with regular cover and drop side handles. Cover has circular swedges.

Wired in bundles of 6.



No.	Per Doz.	DIMENSIONS, INCHES				Wt. per Doz.
		Cap. Gal.	Top Btm. Diam.	Ht.	Doz.	
715	15½	16¾	14¼	20¾	123
720	20¾	17¾	15½	23¼	144
726	26¾	19¾	17	25¼	184

No. 146 Wheeling Dura-Zinc-Alloy Cement Pails

Capacity, 14 Quarts



A good serviceable cement pail with raised bottom, reinforced with double straps on bottom.

Formed from heavy steel rod, the bail is looped at each end into heavy butterfly ears. Welded.

Height, 10½ inches; diameter, 12½ inches.

Packed nested, 12 pails in a bundle, securely wired.

Shipping weight per dozen, 57 pounds.

Wheeling Dura-Zinc-Alloy Water Pails

Standard Weight



Made of sheet steel and hand dipped in pure-zinc.

Double seamed side swedged, welded ears.

Raised concave bottom.

Nested 12 in a bundle.

Plain Wire Bail No.	Wood Roll Handle No.	Cap. Qt.	Top Diam. In.	Ht. In.	Ship. Wt. Lb. Per Doz.
1082	W1082	8	9 ⁵ / ₈	8 ³ / ₁₆	19
1102	W1102	10	10 ¹ / ₂	9 ¹ / ₈	23
1122	W1122	12	11 ¹ / ₈	10	26
1142	W1142	14	11 ⁵ / ₈	10 ³ / ₈	28

Wheeling Dura-Zinc-Alloy Water Pails

Extra Heavy



Plain tapered body with double seamed raised bottom. Plain heavy pail and heavy stamped ears, welded to body.

Shipped nested 12 in a bundle, securely wired.

No. given is for plain pail; for red banding, suffix letter B to number; for wood roll handle, prefix letter W to number.

No.	510	512	514	516
Capacity.....quarts	10	12	14	16
Diameter.....inches	11 ¹ / ₂	12	12 ¹ / ₂	12 ⁷ / ₈
Height.....inches	9 ¹ / ₂	9 ⁷ / ₈	10 ³ / ₁₆	10 ⁷ / ₈
Approx. Wt. per Doz.....lb.	45	48	51	55

No. 147 Wheeling Dura-Zinc-Alloy Navy Pails

Capacity, 14 Quarts

Conforms to United States Government specifications. Tapered. Raised bottom reinforced by two steel braces.

¹/₂x1¹/₂ inches. Straps are welded to bottom of pail. Heavy wire rim. Bail made of ³/₈-inch steel rod, looped into heavy butterfly ears.

Galvanized by hand dipped process.

Shipped in bundles of one dozen, securely wired.

Height.....inches	10 ⁵ / ₈
No. 147.....per dozen	....
Diameter, Top.....inches	12 ¹ / ₈
Bottom.....inches	9 ¹ / ₂
Weight, per Doz. pounds	79



No. 21S Wheeling Galvanized Baskets

Capacity, 1 Bushel



A galvanized basket with swedged body.

Made from zinc-coated steel sheets.

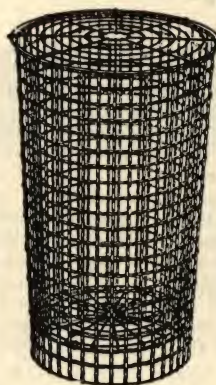
Has seamless drawn bottom, corrugated and double seamed to body.

Cover can be supplied.

No. 21S per doz.

Cyclone Catch-All Basket

Rubbish Burner—Waste Basket



A convenient receptacle for waste paper and trash as well as a rubbish burner—both in one. The small mesh keeps burning fragments safely confined.

Built of heavy crimped wire, electrically welded. Finished in green enamel.

Weight including cover, 12 pounds; height, 29 inches; diameter, bottom, 16 inches; diameter, top, 20 inches.

Priceper dozen

No. 1 Electric Hoop White Cedar Pails

2 Hoop



Made of Virginia white cedar, with two electric welded wire hoops.

Staves and bottom are tongued and grooved—a feature necessary for strength and durability in use.

Hoops are sunk into grooves, which gives strength and prevents falling down.

Inside top diameter, 11¹/₈ inches; inside depth, 9 inches.

Capacity, 12 quarts.

Weight per dozen, 42 pounds.

No. 1.....per dozen

J. I. C. Wooden Pails

Capacity, 15 Quarts

A strong, durable pail.

For use by contractors, in mills and in stables.

Iron earstrap.

The bottom is made flush with the bottom of staves to prevent breakage.

Furnished with two galvanized wire hoops.

Heavy bail.

Packed 6 to the bundle.

Capacity.....qts. 15

Per Dozen.....

Inside Diameter:

Top.....inches 11¹/₂

Bottom.....inches 9¹/₂

Inside Depth...in. 9⁷/₈

Wt. per Dozen...lb. 72



Wheeling Dura-Zinc-Alloy Wash Tubs



Heavily swedged body.

Hand-dipped.

Has drop wire handles with clips welded to body.

Packed 6 per bundle, nested.

No.	4A	41	42	43
Per Dozen.....	....	....	....	....
Diameter at Top.....inches	14 ⁹ / ₁₆	20 ¹ / ₄	22	24 ¹ / ₂
Height.....inches	8 ¹ / ₂	10 ⁷ / ₈	11 ¹ / ₈	11 ¹ / ₂
Capacity.....gallon	4	12	15 ¹ / ₂	18 ¹ / ₂
Ship. Wt. per Dozen.....pounds	31	74	82	97

Wheeling Dura-Zinc-Alloy Watering Pots



Hand-dipped.

Has streamlined bail which is beaded for permanent strength and rigidity.

Spout is long, with correct capacity for pouring; brass finished rose gives fine even spray.

No.....	1506	1508	1510	1512	1516
Per Dozen.....					
Diameter at Top.....in.	7 $\frac{1}{8}$	7 $\frac{1}{2}$	8 $\frac{1}{8}$	8 $\frac{1}{2}$	10 $\frac{1}{4}$
Height.....in.	7 $\frac{3}{4}$	8 $\frac{3}{4}$	9 $\frac{3}{8}$	10 $\frac{1}{4}$	11 $\frac{1}{16}$
Capacity.....qt.	6	8	10	12	16
No. in Carton.....	6	6	4	4	3
Ship. Wt. per Doz..lb.	27	33	39	47	59

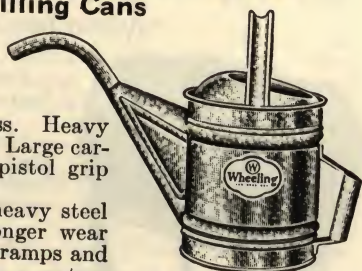
Wheeling Dura Zinc Alloy Radiator Filling Cans

Pours properly; does not spill on car body or car engine.

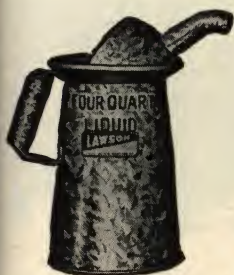
Body double swedged for ruggedness. Heavy conduit pouring spout. Large carrying handle. Strong pistol grip back handle.

Style S has $\frac{3}{8}$ -inch heavy steel hoop at bottom for longer wear when used on concrete ramps and pavements. Packed 4 in a carton.

No.....		32-12	32-12S
Per Dozen.....			
Capacity.....quarts		12	12
Diameter.....inches		8 $\frac{15}{16}$	8 $\frac{15}{16}$
Height.....inches		10 $\frac{3}{4}$	10 $\frac{7}{8}$



Lawson Combination Measures and Funnels



Galvanized

All parts are double seamed together in the black; then dip-galvanized with a heavy coating of zinc.

Leakproof and rust-resistant.

Has curved spout.

Packed 12 to a carton except No. 96, six to a carton.

No.....	94	95	96
Per Dozen.....			
Capacity.....quarts	1	2	4
Weight per Dozen.....pounds	14	18	25

Lawson Combination Measures and Funnels

Galvanized



Made of black steel sheets dip-galvanized, with heavy coat of zinc.

Leakproof and rust-resistant. Flexible spout, $\frac{5}{8}$ -inch diam.

Packed 12 in a carton except No. 96F, six to a carton.

No.....	94F	95F	96F
Per Dozen.....			
Capacity.....qt.	1	2	4
Length Spout.in.	9	9	14
Shipping Weight per Doz....lb.	15	19	30

Lawco Blue Line Standard Funnels



For commercial use. Furnished in a heavy, hot-dipped galvanized grade with a top rim which prevents spilling. Corrugated spout forms air vent. Packed 12 in a package.

No.....	25G	30G	35G
Galvanized.....each			
Size.....pints	2	4	8
Top Diameter.....inches	5 $\frac{7}{8}$	6 $\frac{5}{8}$	8
Weight, Package.....pounds	5	6	8

Galvanized Automobile Funnels



Extra heavy, fixed brass wire strainer. Fluted spout. Hot dipped galvanized.

No.....	1	2
Per Dozen.....		
Height.....inches	10	15 $\frac{1}{8}$
Bowl: Diameter.....inches	9 $\frac{5}{8}$	12
Depth.....inches	6 $\frac{5}{8}$	10 $\frac{3}{4}$
Spout: Length.....inches	3 $\frac{3}{8}$	4 $\frac{3}{8}$
Opening Diameter.....inches	7 $\frac{1}{8}$	1 $\frac{1}{8}$
No. in Carton.....	6	6
Weight per Carton.....pounds	8 $\frac{1}{2}$	16 $\frac{1}{2}$

Justrite Safety Cans



$\frac{1}{2}$ and 1 Gallon



2, 3, and 5-Gallon with Screen

For using, handling and storing gasoline, benzine and other explosive or flammable liquids. Non-explosive. Approved, inspected and labelled by Underwriters' Laboratories and Factory Mutual Fire Insurance Companies.

Made of 24-gage steel, lead coated. Large nozzles, easy to fill. No-spill pouring lip. Balanced for easy carrying. Sizes 1-pint to 1-gallon with trigger handle; 2, 3 and 5 gallons with swinging handle. 5 gallon can may be filled directly from gasoline hose nozzle.

No.....	1000	1010	1020	1030	1040	1050	1060
Without Screen..ea.	\$5.00	5.00	6.10	6.30	7.60	8.30	9.40
Cap.....gal.	1-Pt.	1-Qt.	$\frac{1}{2}$	1	2	3	5
Diam.....in.	4 $\frac{5}{8}$	4 $\frac{5}{8}$	7 $\frac{1}{4}$	7 $\frac{1}{4}$	9 $\frac{3}{8}$	9 $\frac{3}{8}$	11 $\frac{1}{2}$
Ht.....in.	6 $\frac{3}{4}$	8 $\frac{1}{4}$	8 $\frac{3}{8}$	11 $\frac{1}{2}$	12 $\frac{5}{8}$	16 $\frac{1}{8}$	17
Ship. Wt.....lb.	2	2 $\frac{1}{2}$	3	4	7	8	9

Baffle Screens

A non-flash-back baffle screen for use with safety cans. Easily removed or inserted. Made of two layers of wire mesh. Inner mesh of heavy wire covered by an outer layer of fine mesh wire. Held by special locking ring. Screens are not required by Underwriters'; required by Factory Mutual in 1, 2, 3 and 5-gallon sizes.

No. 1098 Screen—For 1 Pt. and 1 Qt. Cans.....each \$.90
No. 1099 Screen—For $\frac{1}{2}$, 1, 2, 3 and 5 Gal. Cans.....each .90



No. 2505-L Wheeling Gasoline Cans

Capacity, 5 gallons.

Has strong wire bail, wood roll handle and hexagon filler cap.

Extra large double pouring spout.

Lacquered inside. Lithographed red. Word "gasoline" in yellow.

Number per carton, 4.

Weight per dozen, 49 pounds.

Wheeling Oil Cans

Capacity, 5 gallons

Made from black steel sheets; lithographed outside, lacquered inside.

Has strong wire bail, wood roll handle and hexagon filler.

Diameter 11 $\frac{1}{8}$ inches.

Height excluding breast, 12 $\frac{1}{4}$ inches.

No. 1055-L has a large plain pouring spout.

No. 2105-L has a large double pouring spout. Screw cap contains the smaller spout.

Packed $\frac{1}{3}$ dozen per carton.



Eagle Galvanized Oil Cans

Triple-lock body seams insure against leakage. Wide mouth filler opening. Made from prime galvanized sheets.

Has a seamless drawn spout.

Ears for carrying bail are securely welded to breast.

No. 4055 has extra large pouring spout, 1 $\frac{1}{2}$ -inch diameter.

Blue striped; blue hexagon cap.



No.	Cap. Gal.	Ht. Over-all In.	SPOUT INCHES		No. in Carton	Wt. Lb. per Doz.
			Lgth.	Diam.		
401	1	10	2	$\frac{5}{8}$	12	22
402	2	11 $\frac{3}{4}$	2	1	6	36
403	3	11 $\frac{1}{4}$	2	1	4	48
405	5	15 $\frac{3}{4}$	2	1	4	62
4055	5	15 $\frac{3}{4}$	4 $\frac{1}{2}$	1 $\frac{1}{2}$	4	63

Eagle Galvanized Oil Cans

Capacity, 5 Gallons—Faucet Type

Triple-lock body seams insure against leakage. Recommended for filling oil and gasoline ranges, lamps, lanterns, etc.

Height overall, 15 $\frac{3}{4}$ inches.

Diameter faucet outlet, $\frac{3}{8}$ inch.

Attractively labeled, with blue striped enamel finish; hex cap.

Packed 4 in a shipping carton.

Weight per dozen, 63 pounds.

No. 405F, with Galvanized Iron Faucet.

No. 405KF, with Brass Key Faucet.

No. 405BLF, with Brass Lever Faucet.



No. 405F

Justrite Oily Waste Cans

Listed by Underwriters' Laboratories

For safe handling of waste, rags and other inflammable materials. Listed by Underwriters' and by Factory Mutual Fire Insurance Companies. Body of 24-gage galvanized sheet steel, cover of No. 22 gage. The 4-inch legs and the handles are of $\frac{1}{8}$ -inch band iron 1-inch wide.



With Foot Lever

No.	Each	Size, Inches		Nom. Cap. Gal.	Ship. Wt. Lb.
		Excluding Legs			
9-1	\$8.80	11 $\frac{3}{4}$ x13		6	14
9-3	11.00	13 $\frac{1}{2}$ x15		10	17
9-5	13.00	15 $\frac{1}{2}$ x17		14	21
9-7	22.00	19 x20 $\frac{1}{2}$		25	26
Without Foot Lever					
9-1-A	\$7.80	11 $\frac{3}{4}$ x13		6	12
9-3-A	10.00	13 $\frac{1}{2}$ x15		10	15
9-5-A	11.70	15 $\frac{1}{2}$ x17		14	19
9-7-A	19.80	19 x20 $\frac{1}{2}$		25	25

No. 10 Pollard Rocker Type Barrel Stands

Without Rollers



Easily handles 500-pound barrels.

Made of 1 $\frac{1}{4}$ x1 $\frac{1}{4}$ x $\frac{3}{16}$ -inch steel angles, and flats. Well braced and balanced. Arc-welded into a solid unit.

Olive green lacquer finish.

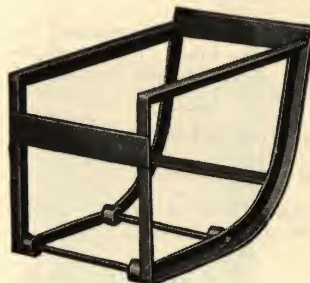
Lift, 18 inches.

Weight, 30 pounds.

No. 10.....each \$13.50

No. 11 Pollard Rocker Type Barrel Stands

With Rollers



Handles 500-pound barrels easily.

Made of 1 $\frac{1}{4}$ x1 $\frac{1}{4}$ x $\frac{3}{16}$ -inch angles, and flats, well braced and balanced and completely arc-welded into a solid unit.

Olive green lacquer finish.

Lift, 18 inches.

No. 11.....each \$18.50

Can be furnished with top rollers at \$4.00 extra.

Economy Carboy Tipper



A simple, sturdy device for safely handling standard 13-gallon carboys.

One-man operated, load being so balanced that one hand controls tilting and when released after pouring, the carboy automatically returns to the vertical position.

Operation: tipper frame is placed over upright carboy and holding clamp is tightened. Carboy is now locked to frame, ready to be tilted for pouring.

Angle of tilt is varied according to amount of liquid in carboy, curved runners allowing frame to be tilted to desired angle. Two wheels can be added for ease in moving sealed carboys across floor before draining.

Made of structural steel, arc welded, with red enamel finish. Shipped assembled; shipping weight 29 pounds.

Without Wheels.....each \$14.80

Add for Two Base Wheels.....each 1.60

Lawson Torpedo Receptacles

For use in washrooms, dairy bars, hospitals, laboratories, restaurants, schools, etc.

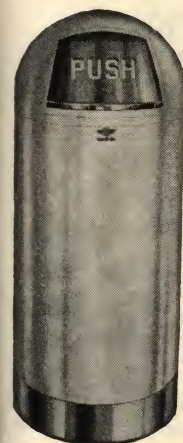
Outer shell lifts easily from metal inner can for quick emptying. Galvanized inner container resists moisture. Swinging bail on inner container.

Rounded top and sides.

Self-closing push door of stainless steel. Steel door ledge. Rubber door silencer.

Stainless steel band at bottom, curled under.

Finished in white or olive green baked enamel. Stainless steel trim.



No.	901	1001	2001
Each .....	.....	.....	.....
Capacity.....gallons	14	16	28
Shell Size.....inches	15x31½	15x37	18x42
Container Size.....inches	13x21½	13x27	16x31
Weight, Each.....pounds	27	32	54

Solar Self-Closing Sanitary Receptacles

An all-steel constructed receptacle that is sanitary, fireproof and convenient.

Self-closing top swings open at a touch to receive deposits, yet is always closed when not in use.

Removable inner containers afford an easy means of removing the contents without touching them.

Nos. 3 and 10 each equipped with 12 paper bags. No. 12 equipped with a cotton drill bag. Nos. 130, 50 and 60 equipped with a burlap bag.

When ordering, specify finish.



No.	Green or Gray Each	White Each	Size Base Inches	Body Height Inches	Height Overall Inches	Ship. Wt. Lb.
3	\$6.90	\$7.60	9x9	6	10¾	7
10	10.25	11.20	11½x11½	18¼	24¼	16½
12	13.05	14.35	11½x11½	27¾	34	27
130	17.45	19.15	16x16	26¾	34¾	42
50	25.60	29.95	21x21	35	46¼	86
*60	34.10	38.90	21x21	35	46¼	94

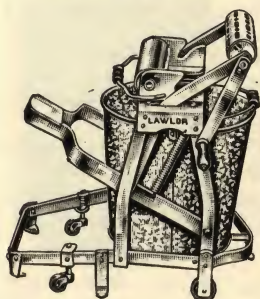
*For outdoor use.

BUY FROM YOUR DISTRIBUTOR

As your Distributor we are carrying your stock of maintenance supplies. We keep down your investment.

YOU NEED OUR SERVICE
WE NEED YOUR ORDERS

No. 2 Janitor Special Mop Wringers



This mop wringer is made of steel. The all steel perforated roll forces the mop out without pulling. The long foot lever enables the user to bring the rolls together with very little effort and yet with sufficient pressure to dry the mop.

Self-adjusting casters automatically raise and lower the frame so that when the mop is being dried the wringer rests on the oval bearing feet and cannot move. When pressure is removed the casters automatically raise the feet permitting the wringer to be easily moved about.

Shipping weight, 6 in a crate, 160 pounds.
No. 2, Pails Extra.....per dozen \$85.00

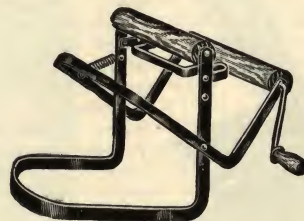
No. 3 Iron Clad Mop Wringers



An all steel, powerful wringer. The frame has steel swivel casters, enabling it to be moved with a touch of the foot. Especially adapted for covering large floor space.

Shipping weight, 12 crated, 180 pounds.
No. 3.....per dozen \$36.00

No. 6 Challenge Mop Wringers



A steel frame made to be used with or without a pail. Shipping weight per dozen, 110 pounds.
No. 6.....per dozen \$24.00

No. 7 Challenge Pail Mop Wringers

This wringer has a heavy 14-quart galvanized iron pail fastened in a steel frame. Never swells or dries out, adapted best where the wringer is liable to be left for a long time without use.

Shipping weight per dozen, 150 pounds.
No. 7.....per dozen \$36.00

Dandy Cotton Mop Heads



Made of eight ply hard twisted yarn, strong and serviceable. Furnished in 8, 10, 12, 16, 20, 24 and 32-ounce weights.

Prices upon application.

American Beauty Cotton Mop Heads



Recommended for janitor and household use.

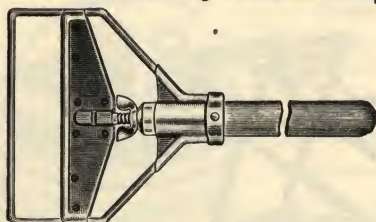
Made of 4-ply select super-soft extra white cotton yarn. Absorbs quickly and abundantly and stands hard wear.

Fits all standard or regular style mopholders.

Packed 1 dozen of a size in a corrugated fiber shipping carton.

Wt. Size Oz.	Per Dozen	Approx. Lgth. In.	Wt., Lb. per Dozen
12	\$13.05	14	9
16	17.40	16	12
20	21.75	18	15
24	26.10	20	18
32	34.80	22	24

Handy Master Mop Sticks



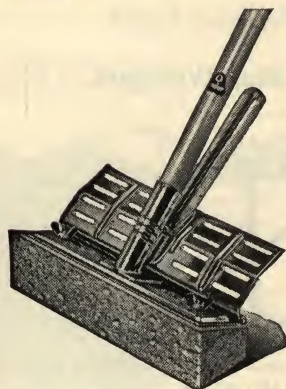
Locking clamp, head, threaded stud, swaged wing nut and bail made of steel, zinc plated.

Natural finish wood handle.

Packed 12 tied in bundle.

No. 20-B Large Size has 2x7-inch opening and holds 2 mops. The 54-inch length, 1½-inch diameter, is available with straight or shaped handle. Weight per dozen, 25 pounds. The 60-inch length, 1½-inch diameter, comes in shaped straight handle. Weight per dozen, 28 pounds.

No. 10-B Home Size has 1½x5½-inch opening and is 48 inches long and ⅞ inch in diameter. Weight per dozen, 12 pounds.



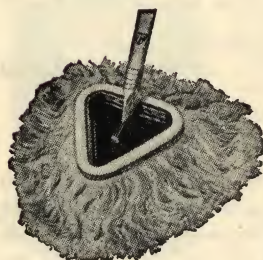
No. 76 O-Cedar Sponge Mops

Features built-in squeezer. Mop grips surface, floods floor and scrubs out dirt. Squeezer automatically returns to position after use. Made of tough steel, chromium plated. Cellulose sponge withstands boiling water. Safety cushion edge surrounds metal parts. Easily cleaned. Two wing nuts hold refill firmly to mop, yet allow easy removal of head. Lacquered handle, 48 in. long.

Mops or refills, 12 to a case.

No. 76 Mop, Ship. Weight per Case, 29½ Lb. each \$3.95
No. 76 Refill, Ship. Wt. per Case, 4 Lb. each 1.49

O-Cedar Triangular Mops

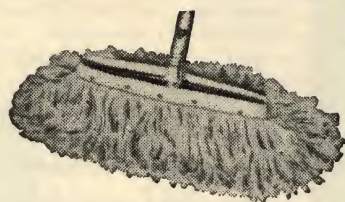


High quality, long wearing yarn. Picks up dust and holds it. Removable pad for easy washing. Padded centerplate prevents scratching of furniture or woodwork.

Packed 12 in a carton including handles.

No.	Each	Type	Approx. Wt. Lb. per Doz.
3	\$2.39	Polish	26½
4	2.09	Polish	23¾
8	2.59	Dust	22½
9	2.29	Dust	20½

No. 22 O-Cedar Sweep Type Dusters

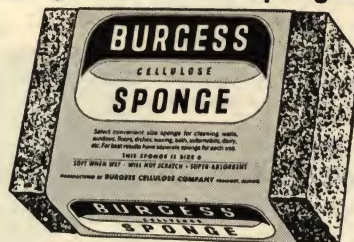


O-Cedar Floor Duster is made with solid metal center. Ends protected.

Spread, 12x22½ inches.

Packed 6 in a carton including handles; weight 14¼ pounds.
No. 22 each \$3.49

Burgess Cellulose Sponges



For countless cleaning uses throughout the home, wall washing, car washing, floor mopping, etc.

Natural color only.

Packed 12 to a carton, 72 to a case.

No.	5	6
Each	\$.70	.95
Size inches	6x4x1¾	7x4½x2
Wt. per 6 Dozen pounds	12	16

Fulton Dust Pocket Dust Pans



Made from 26-gage steel. Wire reinforced at corners. Inserted steel edge. Dust retaining hump.

Finished in satin black enamel.

No. 550

Size, 12¾x8½x1½ inches.

Packed 2 dozen to the case.

Shipping weight, 15 pounds per doz.

No. 550 per dozen . . .

No. 600

Size, 12¾x8½x2½ inches. Furnished with hood.

Packed 1 dozen to the case.

Shipping weight, 20 pounds per dozen.

No. 600 per dozen . . .

Arrow Steel Floor Scrapers



A practical, durable combination of floor scraper and squeegee. Frame is made of ¾-inch angle and steel strip.

Handle socket is extra long of welded steel. Finish green baked enamel. Screws are of solid brass. Rubbers are ⅝ inch thick by 2¼ inches wide, except 15 and 18-inch sizes which are ¾ inch thick and 2 inches wide.

Packed in individual boxes.

No.	2015	2018	2024	2030	2036
Per Dozen	\$36.30	43.56	58.08	72.60	87.12
Size inches	15	18	24	30	36
Weight per Dozen . . lb.	31½	34	45	58½	64

No. 2 Red Arrow Window Cleaners



Heavy steel. Angle-shaped front strip for additional strength.

Has one red service rubber and one gray cushion rubber $\frac{3}{32}$ -inch thick. Oval head countersunk screws. Brilliant red enameled handle.

Packed 6 in a carton.

No.	608-2	610-2	612-2	614-2	616-2	618-2
Per Dozen	\$11.15	12.10	12.91	13.99	15.60	16.81
Size.....inches	8	10	12	14	16	18
Wt. per Doz..pounds	6½	7¾	8¾	10½	11¼	12½

Silver Arrow Window Cleaners



Made of steel, cadmium plated and rust-proof. Solid brass oval head screws are countersunk. Lock ring prevents spreading of handle, eliminates slipping and wearing of tapered end of pole.

Equipped with one $\frac{3}{32}$ inch white service rubber and one $\frac{3}{32}$ inch cushion rubber. Packed in individual boxes.

No.	206	208	210	212	214	216	218
Per Doz.	\$14.78	15.86	17.20	19.83	20.70	23.52	25.41
Size.....in.	6	8	10	12	14	16	18
Wt. per Doz.lb.	7	8	9	10	11	12	13

Golden Arrow Window Cleaners



Made of solid brass—acid cleaned and lacquered. Screws are oval head and countersunk. Lock ring prevents spreading of handle, eliminates slipping and wearing of tapered end of pole, and assures a firm, even grip.

Equipped with one $\frac{3}{32}$ -inch white service rubber and one $\frac{3}{32}$ -inch black cushion rubber. Packed in individual boxes.

No.	106	108	110	112	114	116	118
Per Doz.	\$26.88	29.57	31.72	34.14	36.17	39.25	42.22
Size.....in.	6	8	10	12	14	16	18
Wt. per Doz.....lb.	8	9	11	12½	13	14	15

No. 1 Arrow Wood Floor Scrapers

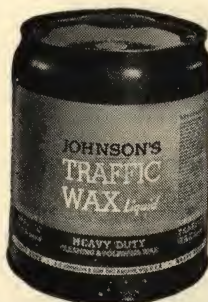


Made of clear, kiln-dried hardwood.

Block is $\frac{7}{8}$ inch thick, $2\frac{3}{4}$ inches high. Equipped with $\frac{1}{16}$ inch pure gum rubber, $1\frac{1}{8}$ inches wide, which projects $\frac{5}{8}$ inch out of block.

No.	2114-1	2116-1	2118-1	2124-1	2130-1
Per Dozen	\$15.49	16.94	18.15	22.75	29.04
Size.....inches	14	16	18	24	30
Weight per Dozen.....pounds	9½	11	13	17½	22

Johnson's Traffic Wax



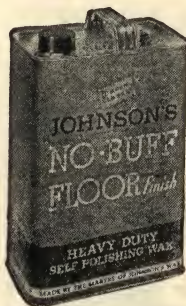
A genuine buffing wax for hard service on public floor areas. Extremely tough, wear-resisting film. Seals pores against dirt—simplifies cleaning. High coverage makes for great economy.

Finest finish for wood, linoleum, terrazzo, cement, and other floors. Not for use on rubber or asphalt tile.

Traffic Wax Liquid: 1 gal. covers 1500 to 2000 sq. ft., 1 coat.
Size Container.....gallons 1 5 30 55
Per Gallon.....\$2.80 2.60 2.50 2.40

Traffic Wax Paste: 1 lb. covers about 400 sq. ft., 1 coat.
Size Container.....pounds 5 10 30
Per Pound.....\$.53 .51 .48

Johnson's Green Label No-Buff Floor Finish



A no-rubbing, no-polishing type finish for large floor areas.

In this finish, an ideal balance has been attained between the qualities of long wear, easy application, quick drying, high luster.

For use on linoleum, rubber, asphalt tile, terrazzo, and other floors.

Dries in 20 to 30 minutes to a beautiful high polish.

One gallon covers 2000 to 2500 square feet, one coat.

Size Container.....gallons	1	5	30	55
Per Gallon.....	\$2.80	2.60	2.50	2.40

Johnson's Brown Label No-Buff Floor Finish



Made especially for use on linoleum, rubber, asphalt base, terrazzo, and well-sealed varnished or painted wood floors. Suited for large public floor areas and for all areas, large or small, traffic on which is such as to make maintenance with ordinary finishes difficult.

Is water-resistant for floors subject to frequent damp mopping.

Dries to a bright, transparent gloss without rubbing, but for a higher polish it may be buffed with an electric polisher.

One gallon covers about 2000 to 2500 square feet.

Size Container.....gallons	1	5	30	55
Per Gallon.....	\$3.15	2.95	2.85	2.75

Johnson's Self-Polishing Hard-Gloss Glo-Coat Floor Polish



A no-rubbing floor polish.

Used on linoleum, rubber and other composition floors and painted and varnished wood floors.

Just spread evenly over clean floor; shines as it dries.

Size Container.....	1-Pt.	1-Qt.	½-Gal.	1-Gal.
Each.....	\$.65	1.10	1.75	3.25
No. in Carton.....	24	12	6	4

Johnson's Paste Wax

For polishing floors of all kinds—wood linoleum, rubber tile, marble, etc.

Size Container.....pounds	1	2
Each.....	\$.75	1.29
No. in Carton.....	12	12

**Johnson's Beautiflor Liquid Wax**

For floors and furniture. Especially handy for furniture, woodwork, refrigerators, etc., because of its liquid form. Cleans and polishes in one operation.

Size Container.	1-Pt.	1-Qt.	1/2-Gal.	1-Gal.
Each.....	\$.75	1.29	1.98	3.25
No. in Carton..	12	12	6	4

**Johnson's Car-Nu**

A liquid that dries to a white powder. Cleans and polishes car in one application. When wiped off, road grime and dullness come off.

Size Container.....	1-Pt.	1-Gal.
Each.....	\$.69	3.40
No. per Carton.....	12	4

O-Cedar All-Purpose Polish

Genuine O-Cedar Polish cleans as it polishes. It is easily applied and removes smudges, finger prints, dirt, etc.

A safe polish for pianos, furniture and woodwork. Perfect for dusting. Undiluted.

Description	Each	No. in Carton	Wt. Lb. per Carton
4-Ounce Bottle	\$.28	24	15 1/2
12-Ounce Bottle	.56	12	17 1/2
1-Quart Can	1.41	6	13 1/2
1/2-Gallon Can	2.25	6	24
1-Gallon Can	3.38	4	31

Simoniz Kleener**Liquid**

Cleans and shines automobile finishes in one easy operation. Speedy. Cleans thoroughly. Does not cover up dirt with oily here-today-gone-tomorrow shine. Restores natural beauty and color to all lacquers and enamels. Marvelous for quick shine-up, also prepares finish for Simoniz.

Size Container.....	1-Pt.	1-Gal.
Each.....	\$.69	3.03
No. in Case.....	24	4
Wt. Per Case.....pounds	36	40

**Paste**

Recommended for extremely dull automobiles. Restores luster and color. Brings back all beauty the finish had when new. Also prepares it for Simoniz.

Size Container.....	12-Oz.	1-Gal.
Each.....	\$.69	4.45
No. in Case.....	24	4
Weight per Case.....pounds	23	40 3/4

Simoniz

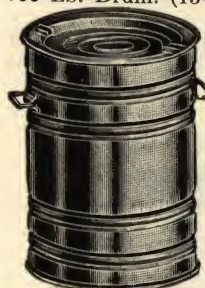
Needed to protect automobile finishes. Stops damage by weather, wear, corrosive air-borne chemicals. Makes finish last longer. Keeps colors from fading. Gives lasting beauty.



Size Container.....	7-Oz.	1-Lb.
Each.....	\$.25	1.39
No. in Case.....	24	12
Weight per Case.....lb.	16	16 1/2

Miller Sweeping Compound

Red Florsweep. For ordinary wood and cement floors. An oil and sand base grade. Harmful to resilient floors. 100 Lb. Drum. (15-Gal. Volume).....per drum \$3.90



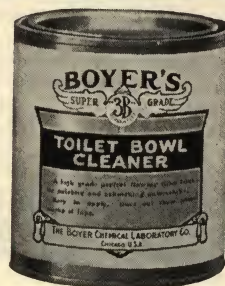
Green Florsweep. Gritless grade.

For non-waxed linoleum, non-waxed finished wood floors and glass like terrazzo, vitreous and mosaic tile floors. Harmful to resilient floors. 100 Lb. Barrel (30-Gallon

Volume).....per barrel \$7.60

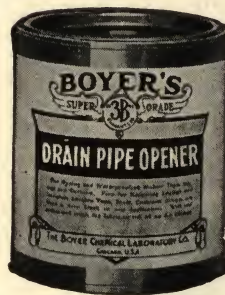
No-Spot Orange Florsweep. For safe use on resilient type floors, such as asphalt tile, rubber tile, cork, tile, mastic, composition and waxed wood floors. Free from oil, water and sand.

37 1/2 Lb. Drum. (7 1/2-Gal. Volume).....	per drum	\$3.80
75 Lb. Drum. (15-Gal. Volume).....	per drum	7.00

Boyer's Toilet Bowl Cleaner

For cleaning toilet bowls and flush traps. Removes dirt and discoloration.

Packed 24 in a case; approximate weight, 48 pounds. 1-Pound Can.....each \$.29

Boyer's Drain and Sewer Pipe Opener

Boyer's Drain and Sewer Pipe Opener dissolves and loosens all foreign matter—paper, rags, matches, hair, cigar stumps, vegetable matter, etc.

It gets to the source of trouble in stopped pipes. Will not injure the plumbing.

Packed 24 cans to a case.

13-Ounce Cans.....	each	\$.35
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Drano

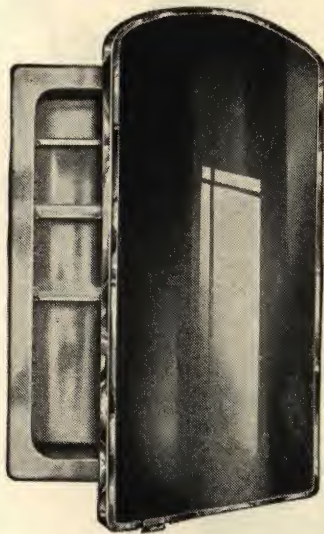
Opens clogged drain pipes, keeps drains clean, sanitary and free flowing. Complete directions for using Drano appear on each can. Easy to use.

Size container, 12 ounces.

Packed 24 to a case. Shipping weight, 22 1/2 pounds.

No. 264 Grote Bathroom Cabinets

Arched top, polished plate glass mirror with quality backing to insure against silver spoilage. Furnished with mirror clips or stainless steel frame.



Recessed cabinet is constructed with one-piece, deep drawn seamless, heavy gage cold rolled steel body and finished in high luster baked-on enamel.

White enameled continuous steel hinge.

Removable shelf brackets are set in recessed standards with shelf adjustments one inch apart.

Three bulb edge glass shelves are regularly furnished.

Chrome-plated round bar, spring cushioned door stop.

Matched moulded plastic razor blade disposal box and tooth brush holder for cleanliness and permanent luster.

Size of mirror, 16x24 inches.

Rough opening, $13\frac{7}{8} \times 18\frac{7}{8} \times 3\frac{5}{8}$ inches.

Shipping weight, 27 pounds.

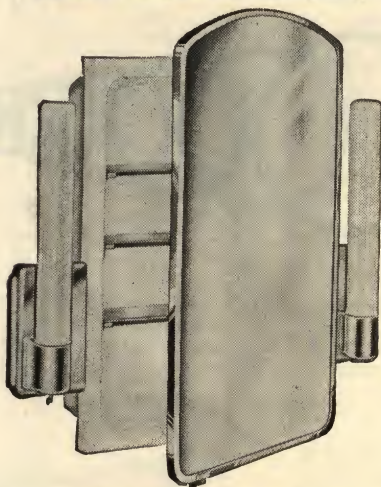
No. SF-264, Stainless Steel Frame.....each \$25.10

No. MC-264, Beveled and engraved Mirror with Clips.....each 26.20

No. LSF-264 Grote Bathroom Cabinets

Lighted

Listed by Underwriters' Laboratories



Stainless steel framed, arched top. Quality backed, silvered plate glass mirror on recessed cabinet heavy steel body. Can also be furnished with mirror clips.

Chromium plated full tubular fixtures use T8 clear 40-watt bulbs; completely wired. Control switch left-hand bracket, convenience outlet for electrical appliances, right-hand.

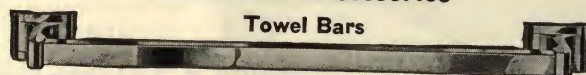
Removable shelf brackets in recessed standards, one inch adjustments. Continuous steel hinge. Chrome-plated, round bar spring cushioned door stop. Moulded plastic razor blade disposal box and tooth brush holder. Three bulb edge or plate glass shelves. Cabinet finish, high luster, baked-on enamel. Mirror 16x24 inches. Rough opening, $13\frac{7}{8} \times 19\frac{1}{8} \times 3\frac{5}{8}$ inches.

No. LSF-264, Shipping Weight 33 Pounds.....each \$50.60

Beveled and engraved mirrors with mirror clips available.

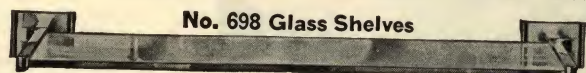
Hall-Mack Coronado Chromium Plated Bathroom Accessories

Towel Bars



Length.....in.	18	24	30	36
No. 694, $\frac{3}{4}$ -In. Sq. Chrome Bar.....each	.....	.....	.....	.....
No. 695, $\frac{3}{4}$ -In. Rd. Chrome Bar.....each	.....	.....	.....	.....

No. 698 Glass Shelves



Length.....inches	18	24
No. 698, 5-Inch Crystal Shelf.....each

No. 660 Soap Holders and Grab Bars



No. 660.....each
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No. 622 Soap Holders



No. 622 each ...

No. 630 Tumbler and Tooth Brush Holders



No. 630 each ...

No. 640 Tumbler Holders



No. 640 each ...

No. 650 Tooth Brush Holders



No. 650 each ...

Paper Holders

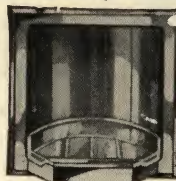


No. 681 Hooks



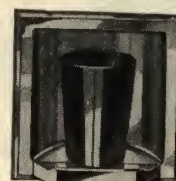
No. 670 each ...
*No. 671 each ...
*With wood roller.

No. 625 Soap Holders



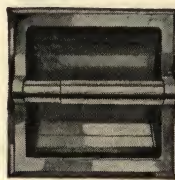
No. 625.....each

No. 645 Tumbler Holders



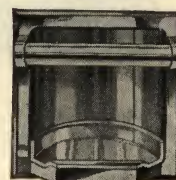
No. 645.....each

Paper Holders



No. 675.....each
No. 676, with Wood Roller.....each

No. 665 Soap Holders and Grab Bars



No. 665.....each

Concealed Screw Mounting Device



No screw heads can mar streamline appearance of Coronado accessories, because they are concealed beneath the base of the fixture. Accessories are regularly furnished for screw or toggle bolt installation, but are also available with lugs for setting in cement. Specify L type if wanted for cement installation.

Knott Closet Seats



Closed front seat with cover and chromium-plated bar type hinge. Kiln-dried, dowel-reinforced hardwood; 1 1/4 or 1 1/2 inch stock. Seat for regular bowl shown.

	No. For Regular Bowls	No. For Elongated Bowls
Sprayed White.....	180	...
Sprayed White.....	*390	585
White Sheet Covered.....	*3910	5850
Black Sheet Covered.....	*3910	5850
Mother of Pearl.....	*3920	5860

Knott Closet Seats



Open front seat with cover and chromium-plated bar type hinge. Kiln-dried and dowel-reinforced hardwood; 1 1/4-inch stock. Seat for regular bowls shown.

	No. For Regular Bowls	No. For Elongated Bowls
Sprayed White.....	480	580
White Sheet Covered.....	4810	5810
Black Sheet Covered.....	4810	5810
Mother of Pearl.....	4820	5820

No. 101 Dandy Rubber Tank Balls



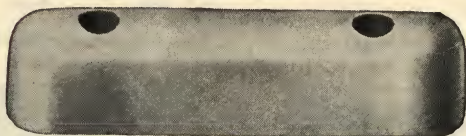
One size only, which fits 2 3/8, 2 1/2, 2 5/8 and 2 3/4-inch valves.

Individually packed in tamper-proof can, 12 cans in display box.

Weight of display box, 2 1/2 pounds.

No. 101.....per dozen \$4.50

Lavelle Bar Pattern Seat Bumpers Plain Type



Type B

For toilet seats.
Packed 100 in a box.

	White		Black	
No.....	1150	1152	1160	1162
Per 100.....	\$5.00	6.60	4.60	6.00
Type.....	A	B	A	B
Length.....inches	1 5/8	2 3/8	1 5/8	2 3/8
Width.....inches	1 1/2	1 1/2	1 1/2	1 1/2
Height.....inches	1 1/16	1 1/2	1 1/16	1 1/2
Weight per Pkg.....pounds	2 1/4	3 3/8	2	3 7/8

Rubber Tack and Screw Bumpers

No. 1736 Tacks

Diameter Inches	Per 100
3/8
1/2
5/8
3/4

No. 734 Screws

Diameter Inches	Per 100
3/4
7/8
1

U.S. Red Fuller Balls



Made with spring or cushion enough to make a ready and easy seat, yet with a positive up-and-down grain that will prevent swelling. Will make seat drip-tight.

Sizes 3/8 to 1 1/16 inch, inclusive, are packed in blue metal-edged box; 3/4 and 1-inch, packed 25 per box.

Available in 3/8, 1/2, 5/16, 5/8, 1 1/16, 3/4 and 1-inch sizes.

Prices will be furnished upon application.

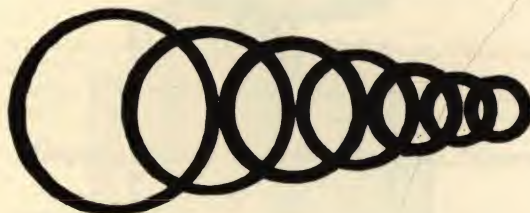
Lucky Strike Solid Basin Plugs For Lavatory, Bath, and Laundry Tubs



Made of white rubber. Withstands the action of hot and soapy water. Will not pop out of P.O. plug because it cannot swell. With heavy nickel-plated post and ring molded in rubber. Standard package, 12.

No.....	400	401	402	403	404	405	406	407	408
Per Dozen	\$1.20	1.40	1.50	1.60	1.70	1.90	2.00	2.25	2.60
Size.....in.	1	1 1/8	1 1/4	1 3/8	1 1/2	1 5/8	1 3/4	1 7/8	2
Wt. per Doz...lb.	5/8	3/4	7/8	7/8	1	1 1/8	1 1/4	1 1/2	1 3/4

U.S. Standard Union Washers



Packed 1 pound per size.

No.	Reg. Union In.	I.D. In.	O.D. In.	Thickness In.
V-5170	1/4	17/32	51/64	3/32
V-5172	3/8	5/8	15/16	3/32
V-5174	1/2	13/16	1 1/4	3/32
V-5176	3/4	1	1 1/2	3/32
V-5178	1	1 1/32	1 15/16	3/32
V-5180	1 1/4	1 1/2	2	3/32
V-5182	1 1/2	1 11/16	2 3/16	3/32
V-5184	2	2 3/16	2 15/16	3/32

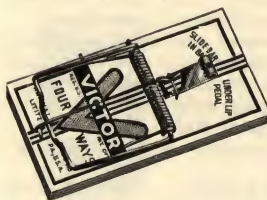
Victor Mouse Traps

Made of kiln dried blocks. Metal bait pedal. Heavy wire work.

Size, 3 7/8x1 7/8x1/4 inch.

Packed 1 gross in a shipping carton. Weight, 9 1/2 pounds per carton

Per Gross.....



Coleman Flexible Coil Wire Closet Augers

Spring made of No. 12 gage wire, 1/2 inch size, with removable corkscrew and cone wire; assembled with steel handle and heavy steel tube.



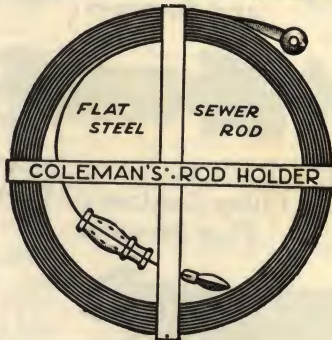
Grade A. A heavy duty cleaner. Flexible coil of special prepared non-corrosive Swedish spring steel music wire. Cadmium plated.

No.....	C-510	C-515
Each.....	\$4.60	5.60
Spring Lgth.....feet	3	6
Weight.....pounds	3	4

Grade B. Spring of high grade special prepared oil tempered spring steel wire. All parts black enameled.

No.....	C-516	C-517	C-518	C-519
Each.....	\$3.55	4.60	5.10	6.10
Coil				
Lgth..ft.	3	6	9	12
Weight..lb.	3	4	5	6

Coleman Flat Steel Sewer Rods



For cleaning out straight sewers or drains. Of special oil tempered, flat spring, steel wire. Will coil and then lay flat for use in sewer.

Nos. C-532 to C-534A are fish tapes for electrical work; plain ends. No. C-536 has ball on end but no handle.

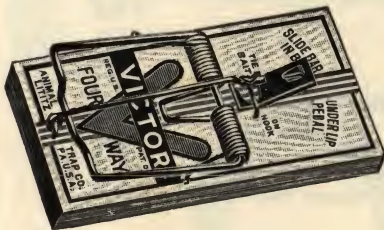
Nos. C-537 to C-542 have oval spear point, roller ball and automatic grip handle.

Style No.	25-Ft. Length		50-Ft. Lgth.		75-Ft. Lgth.		100-Ft. Lgth.		Size Inches
	Each	Wt., Lb.	Each	Wt., Lb.	Each	Wt., Lb.	Each	Wt., Lb.	
C-532	†\$1.30	1	†\$1.80	2	\$2.60	3	\$3.60	4	1/8x.030
C-534	†1.55	1 1/2	†2.60	3	3.60	4	4.65	6	3/16x.030
C-534A	†1.80	1 3/4	†3.10	3 1/2	4.15	4 1/2	6.20	6 1/2	1/8x.060
C-536	†1.90	2	†3.60	4	5.20	6	7.25	8	1/4x1/16
C-537	†2.50	3	†4.70	6	6.25	9	8.30	12	1/2x1/16
C-538	†4.15	4	†6.25	8	8.30	12	10.40	16	3/4x1/16
C-538A	†5.20	6	†6.45	11	10.40	18	13.50	23	1 1/2x1/8
C-539	†6.25	8	†8.75	16	12.50	24	16.60	32	3/4x1/8
C-539A	†7.25	12	†10.60	22	14.35	32	19.60	42	1 x 1/8
C-540	†7.50	14	†11.25	28	14.95	40	20.75	54	1 1/4x1/8
C-542	†8.75	16	†12.50	32	18.70	48	24.90	63	1 1/2x1/8

*Furnished with frames. †Add \$1.00 for frame. ‡Add \$1.50 for frame. §Add \$1.75 for frame.

Longer lengths furnished, with double strength frame. Combine price of 100-ft. with additional length.

Victor Rat Traps



Made of kiln dried block which resists warpage. Equipped with metal bait pedal. Firmly clinched staples will not pull out. Heavy wire work.

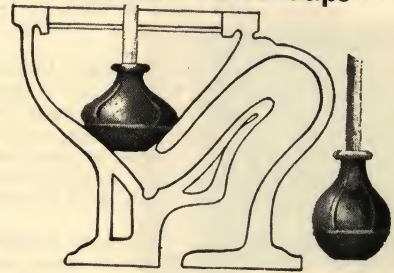
Extending bow allows better grip for easy setting. Bait is to be tied on hook.

Size, 7x3 1/2 x 5/8 inches.

Packed 12 in a carton. Weight, 4 pounds per carton.

Per Dozen.....

American Force Cups



The American Force Cup is practical, scientifically constructed, and it is thoroughly reliable. It is especially designed for closet bowl work.

Each..... \$5.00

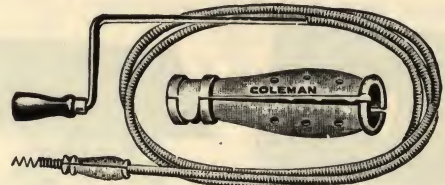
Lavelle Arrow Force Cups



For normal household use. Made from red rubber. Furnished with a threaded handle.

No.....	96	97
Each.....	\$1.66	.55
Size.....	5 1/2	4 1/2
No. in Standard Package.....	12	12
Weight of Package.....pounds	12	11

Coleman Flexible Sewer and Pipe Augers



Nos. 530 and 535 are furnished with handles and corkscrews and all connections. Made in ten-foot sections.

Nos. 520, 525 and 528, 3/8, 1/2 and 5/8-inch sizes, are made with corkscrew and handle complete. Each auger is also furnished with an automatic hand grip handle.

The 1/2 and 5/8-inch sizes are made so that the corkscrew and cone wires can be removed for using in smaller pipes.

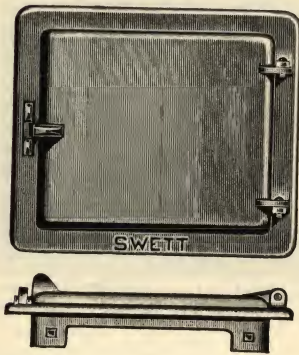
No.	Size Inches	Lgth. Ft.	Wt. Lb.	Each	No.	Size Inches	Lgth. Ft.	Wt. Lb.	Each
520A	3/16	10	1 1/2	\$1.25	525	1/2	6	3	\$2.30
		25	2	2.30			9	4	2.95
		50	4	3.85			15	6	5.05
		100	8	6.90			25	10	7.35
520B	1/4	10	2	1.55	528	5/8	15	10	5.95
		25	3	2.75			25	15	8.25
		50	5	4.35			50	30	13.85
		100	9	7.80			100	50	26.10
520	3/8	6	2	2.00	*530	3/4	10	10	5.60
		9	2 1/2	2.75			25	11	6.60
		15	3 1/2	4.60			10	11	6.60
		25	5 1/2	6.90			10	11	6.60
520	3/8	50	11	10.40	*535	1	10	11	6.60
		100	21	17.50			10	11	6.60

Add for Extra 10-Foot Section for No. 530.....each \$5.10

Add for Extra 10-Foot Section for No. 535.....each 6.10

*Made in 10-foot sections.

No. 112 Swett Ash Pit or Flue Doors



Cleanout doors for use at bottom of chimney flues. Regularly open from left to right. Can, however, be inverted to open from right to left. Frames have lugs at top to hold in cement.

Chimney openings should be made about one inch larger than the actual size openings given in table.

Size In.	Each	—OPENING, IN.—		—OVERALL, IN.—		Depth Frame In.	Wt. Lb. Each
		Height	Weight	Width	Depth		
5x 7	\$3.00	5	6 ⁷ / ₈	7 ¹ / ₈	9 ¹ / ₈	1 ⁹ / ₁₆	4 ¹ / ₂
6x 8	2.70	5 ⁷ / ₈	7 ⁷ / ₈	7 ⁷ / ₈	9 ⁷ / ₈	1 ³ / ₈	6
7x 9	2.90	7	9	9	11	1 ³ / ₈	7
8x 8	2.90	7 ³ / ₄	7 ³ / ₄	9 ¹ / ₂	9 ¹ / ₂	1 ³ / ₈	7 ¹ / ₂
8x10	3.30	7 ⁷ / ₈	9 ³ / ₄	9 ³ / ₄	11 ⁵ / ₈	1 ¹ / ₂	8
10x12	4.90	10	12	12	13 ³ / ₄	1 ¹ / ₂	10 ¹ / ₂
10x14	6.10	9 ³ / ₄	13 ³ / ₄	11 ³ / ₄	15 ³ / ₄	1 ¹ / ₂	12
12x12	7.20	12	12	14	14	1 ⁵ / ₈	12 ¹ / ₂
12x15	9.60	12	15	14	17	1 ⁵ / ₈	14 ¹ / ₂
12x16	10.80	12	15 ⁷ / ₈	13 ⁷ / ₈	18	1 ⁵ / ₈	17 ¹ / ₂
16x16	16.80	16	16	18	18	1 ³ / ₄	23
16x20	19.20	15 ³ / ₄	19 ³ / ₄	18 ¹ / ₄	22	1 ³ / ₄	33
24x16	28.80	23 ¹ / ₂	15	28 ¹ / ₂	20	1 ¹ / ₂	53
24x24	50.40	24	24	28	28	2 ⁵ / ₈	80

Doors or frames furnished separately without drilling at 1/2 above price.

Ash Dumps



No. 1



No. 3



Nos. 2 & 2F

No.	Size Plate In.	Kind Plate	Each
1	7x9	Double	\$2.60
2	7x9	Single	1.50
2F	7x9	*Single	1.50
3	7x9	†Single	3.00

*With flange. †With heavy frame. Frames take 2/3 list; doors 1/2 list.

Round Wire Flue Brushes

Style A

Pipe nipple, 1/4x2 1/2 inches.

No.	Per 100	Brush Part Inches	Wt. Lb. per 100
1900	1 5/8x4 x4 1/2	50
1912	2 x4 1/2x4 1/2	60
1901	2 1/2x6 x4 1/2	75
1913	2 3/4x6 x4 1/2	80
1902	3 1/2x6 5/8x4 1/2	88

Style B Steel Wire Flue Brushes

Round Wire

Pipe nipple, 1/4x2 1/2 inches.

No.	Per 100	Size Brush Inches	Wt. Lbs. per 100
1903	1 3/4x4 x5 1/2	75
1904	2 x4 1/2x6	80
1905	2 1/2x6 x6	120
1906	2 3/4x6 x6	125

No. 1950 Flat Wire Flue Brushes



Round—Single Spiral

For flue diameter, 1 to 6 in. Brush part, 4 1/2 in. Equipped with 1/4-in. pipe nipple. In ordering state whether size required is i.d. or o.d. flue. Wt. per 100, 3-in. size, 50 lb.

No. 1950, Style S.....per inch
Sizes smaller than 2 1/2 in. take price of 2 1/2-in. size.

No. 1953 Steel Wire Flue Brushes

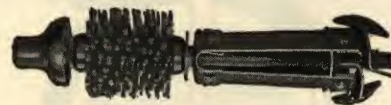


Round Wire, Double Spiral

Has 1/4-inch pipe nipple. Length of brush, 4 1/2 inches. For 1 to 6-inch flues (specify size).

No. 1953.....per diameter inch ...
Sizes smaller than 2 1/2 inches take price of 2 1/2-inch size

No. 550 Pilley Combination Flue Brushes and Scrapers



For Tubes, 2, 2 1/2, 3, 3 1/2 or 4 In.....per diam. in. \$1.00

No. 570 Pilley Engineer's Favorite Flue Scrapers

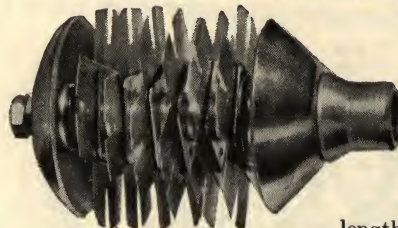


Sizes are for outside diameter of tubes 2, 2 1/2, 3, 3 1/2 and 4 inches.

Shipping weight, per inch, 1 pound.

No. 570.....inch diameter \$1.00

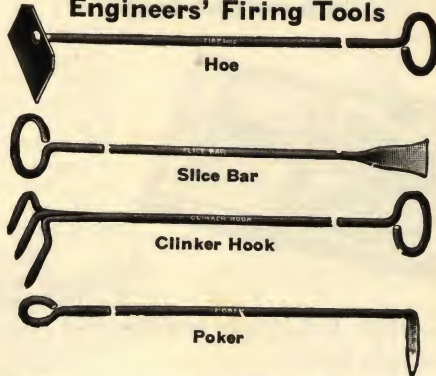
Flexcut Flue Scrapers



Scraping action is essential to insure complete removal of scale and soot. Twelve blades of H shape set in spirals giving 48 scraping scalpels are spaced closely along length of scraper and held rigidly between spacers to center spine.

Blades of special, thin, strong and flexible spring steel.
For 2, 2 1/4, 2 1/2 and 2 3/4-Inch Tubes; Wt., 1 Lb.....each \$2.50
For 3-Inch Tubes; Weight, 1 1/2 Pounds.....each 3.00
For 3 1/2-Inch Tubes; Weight, 1 1/2 Pounds.....each 3.50
For 4-Inch Tubes; Weight, 2 1/4 Pounds.....each 4.00
Blade Replacements from 2 to 3 Inches.....per set .75
Blade Replacements from 3 1/2 to 4 Inches.....per set 1.00

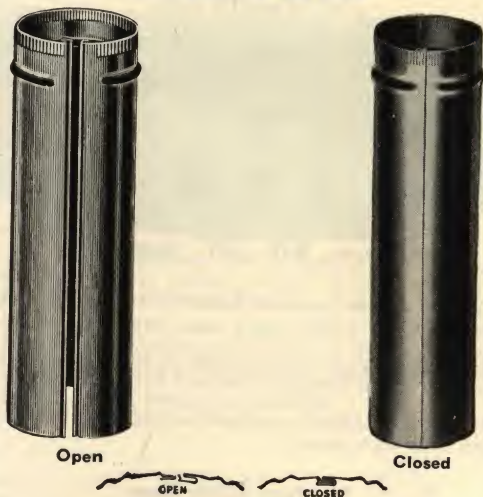
Engineers' Firing Tools



In lengths 5, 6, 7, 8, 9, 10, 11 and 12 feet.
Prices upon application.

Milcor Stove Pipe and Fittings

Lock Joint Stove Pipe



Assembled by inserting the tongue of one edge into fold of opposite edge until it snaps together. When locked the pipe is positively secure and continuous for the full length of the joint, and will not collapse or expand.

Made from a specially developed steel which has a highly polished blue finish of enduring quality.

Regularly made in 2-foot lengths, 3, 4, 5, 6, and 7 inches in diameter, and is formed from 28 and 30-gage Milcor blue steel.

Can also be obtained in quarter joints 6 inches long, half joints 12 inches long and taper joints 24 inches long.

Shipped knocked down, nested, 25 lengths packed in heavy fiber carton.

Weights per 100 Joints—24-Inch Lengths

Size.....inches	3	4	5	6	7
28 Gage.....pounds	110	140	173	205	238
30 Gage.....pounds	88	112	138	164	191

Flue Stops



Ivory finish. Picture lithographed on metal.
Packed 12 per carton.

Flue Reducers



Made in all sizes, 7 to 6, 6 to 5, 6 to 4, and 6 to 3 inches.
Packed 12 per carton.

Adjustable Flue Thimble

Very sturdy and cannot collapse.

Made in galvanized steel only.

Furnished in the following sizes: 5 to 6 to 7, and 7 to 8 to 9 inches; 4 and 6-inch depths.

Stove Pipe Collars



Made with wide or narrow flange, lacquered, and in 3, 4, 5, 6, and 7-inch sizes.

Tapered Stove Pipe Joints



Made in the following sizes: 7 to 6, 6 to 5, and 5 to 4 inches; 28 and 30 gage. 24-inch lengths only.
Packed 25 joints per carton.

Airflo Tee-Joints



Frictionless construction permits an equal draft in each pipe. Eliminates right angle corners entirely.

Size . in.	3x3x3	4x4x4	5x5x5	6x6x3	6x6x4	6x6x5	6x6x6	7x7x7
Gage....	28	28	28	28	28	28	28	26
Lgth..in.	9	12	12	12	12	12	12	12
Wt.Ea.lb.	.83	1.05	1.31	1.19	1.25	1.44	1.72	1.90

Stove Pipe Elbows



Corrugated



Adjustable
Hemmed and Seamed

Corrugated. Corrugations are even and smooth. Long ends insure good fitting qualities and additional strength.

Made from Milcor blue sheets.

Has full 2 $\frac{3}{8}$ -inch ends. Furnished in 28 and 30 gage.

Adjustable. Has non-collapsible crimp end. All but 3-inch sizes are seamed at joints in 28-gage weight. Positively smokeless. Easily adjusted to any angle up to 90 degrees.

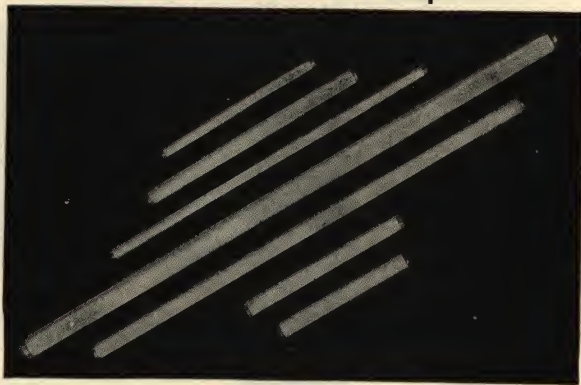
Made from Milcor blue sheets.

Has 2-inch ends. Furnished in 28 gage.

Weights per Dozen

Corrugated—Milcor Blue		3	4	5	6	7
Size.....inches		3	4	5	6	7
28 Gage.....pounds	5 $\frac{1}{2}$	9	12	16	21	
30 Gage.....pounds	4 $\frac{1}{2}$	7	10	13	17	
Corrugated—Galvanized		7	10	16	20	26
Gage.....pounds		7	10	16	20	26
Adjustable—Milcor Blue		4	7	9	12	15
28 Gage.....pounds		4	7	9	12	15

G-E Fluorescent Lamps



For use only with specially designed auxiliary equipment to produce proper electrical values. Lamp may be burned in any position.

Miniature Bipin Base

Nom. Lamp Watts	Lamp Lgth. In.	BULB Size	Diam. In.	Color	Lamp Ordering Abbrev.	Std. Pkg. Qty.	Each
6	9	T-5	5/8	Std. Cool Wh...	F 6T5/CW	24	\$.85
6				White.....	F 6T5/W	24	.85
6				Daylight.....	F 6T5/D	24	.85
8	12	T-5	5/8	Std. Cool Wh...	F 8T5/CW	24	.95
8				White.....	F 8T5/W	24	.95
8				Daylight.....	F 8T5/D	24	.95
13	21	T-5	5/8	Std. Cool Wh...	F13T5/CW	24	1.05
13				White.....	F13T5/W	24	1.05

Medium Bipin Base

Nom. Lamp Watts	Lamp Lgth. In.	BULB Size	Diam. In.	Color	Lamp Ordering Abbrev.	Std. Pkg. Qty.	Each
14	15	T-12	1 1/2	Std. Cool Wh...	F14T12/CW	24	\$.85
14				Std. Warm Wh...	F14T12/WW	24	.85
14				White.....	F14T12/W	24	.85
*15	18	T-8	1	Std. Cool Wh...	F15T8/CW	24	.70
*15				DeLux Cool Wh.	F15T8/CWX	24	.80
*15				Std. Warm Wh...	F15T8/WW	24	.70
*15				DeLux Warm Wh.	F15T8/WWX	24	.80
*15				White.....	F15T8/W	24	.70
*15				Daylight.....	F15T8/D	24	.70
*15				Soft White.....	F15T8/SW	24	.80
15	18	T-12	1 1/2	Std. Col Wh...	F15T12/CW	24	.85
15				DeLux Cool Wh.	F15T12/CWX	24	.95
15				Std. Warm Wh...	F15T12/WW	24	.85
15				DeLux Warm Wh.	F15T12/WWX	24	.95
15				White.....	F15T12/W	24	.85
15				Daylight.....	F15T12/D	24	.85
15				Soft White.....	F15T12/SW	24	.95
*20	24	T-12	1 1/2	Std. Cool Wh...	F20T12/CW	24	.85
*20				DeLux Cool Wh.	F20T12/CWX	24	.95
*20				Std. Warm Wh...	F20T12/WW	24	.85
*20				DeLux Warm Wh.	F20T12/WWX	24	.95
*20				White.....	F20T12/W	24	.85
*20				Daylight.....	F20T12/D	24	.85
*20				Soft White.....	F20T12/SW	24	.95
25	33	T-12	1 1/2	Std. Cool Wh...	F25T12/CW	24	1.00
25				DeLux Cool Wh.	F25T12/CWX	24	1.15
25				Std. Warm Wh...	F25T12/WW	24	1.00
25				DeLux Warm Wh.	F25T12/WWX	24	1.15
25				White.....	F25T12/W	24	1.00
*30	36	T-8	1	Std. Cool Wh...	F30T8/CW	24	.85
*30				DeLux Cool Wh.	F30T8/CWX	24	.95
*30				Std. Warm Wh...	F30T8/WW	24	.85
*30				DeLux Warm Wh.	F30T8/WWX	24	.95
*30				White.....	F30T8/W	24	.85
*30				Daylight.....	F30T8/D	24	.85
*30				Soft White.....	F30T8/SW	24	.95
*40	48	T-12	1 1/2	Std. Cool Wh...	F40T12/CW	24	1.05
*40				DeLux Cool Wh.	F40T12/CWX	24	1.20
*40				Std. Warm Wh...	F40T12/WW	24	1.05
*40				DeLux Warm Wh.	F40T12/WWX	24	1.20
*40				White.....	F40T12/W	24	1.05
*40				Daylight.....	F40T12/D	24	1.05
*40				Soft White.....	F40T12/SW	24	1.15
40	48	T-12	1 1/2	Std. Cool Wh...	F40T12/CW/IS	24	1.15
40				Std. Warm Wh...	F40T12/WW/IS	24	1.15
40				Soft White.....	F40T12/SW/IS	24	1.25

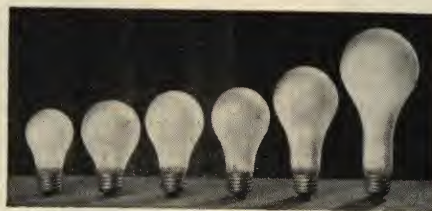
Mogul Pipin Base

Nom. Lamp Watts	Lamp Lgth. In.	BULB Size	Diam. In.	Color	Lamp Ordering Abbrev.	Std. Pkg. Qty.	Each
40	60	T-17	2 1/2	Std. Cool Wh...	F40T17/CW/IS	12	\$2.60
90				Std. Cool Wh...	F90T17/CW	12	2.50
90				Std. Warm Wh...	F90T17/WW	12	2.50
90				White.....	F90T17/W	12	2.50
90				Daylight.....	F90T17/D	12	2.50
90				Soft White.....	F90T17/SW	12	2.70

*Available in blue, green, pink, gold and red.
†For instant start service. No starters used.

G-E General Lighting Service Lamps

115, 120 and 125 Volts



A-15 A-19 A-19 A-21 PS-25 PS-35

Lamps for ordinary use in homes, stores, offices, schools and factories.

Light maintenance, particularly in lamps of higher wattage, is best when lamps are burned vertically, base up.

Finishes: clear, inside frosted for diffusion; white bowl for open type equipment.

Medium Screw Base

No. of Watts	Each	Bulb	Lamp Ordering Abbrev. (Ex. Volts)	No. in Std. Pkg.
15	\$.13	A-15, Inside Frosted.....	15A15	120
25	.13	A-19, Inside Frosted.....	25A	120
40	.14	A-19, Inside Frosted.....	40A	120
50	.14	A-19, Inside Frosted.....	50A	120
50	.40	GA-25, Inside Frosted, Enamel Bowl.....	50GA	60
60	.14	A-19, Inside Frosted.....	60A	120
75	.16	A-19, Inside Frosted.....	75A	120
100	.60	GA-30, Inside Frosted, Enamel Bowl.....	100GA	60
100	.16	A-21, Inside Frosted.....	100A	120
150	.20	A-23, Inside Frosted.....	150A	120
150	.20	A-23, Clear.....	150A/CL	120
150	.25	PS-25, Inside White Bowl.....	150WB	60
150	1.05	R-40, White Indirect.....	150R/W	24
200	.27	PS-30, Clear.....	200	60
200	.27	PS-30, Inside Frosted.....	200/IF	60
200	.32	PS-30, Inside White Bowl.....	200/WB	60
300	.40	PS-30, Clear (750 Hours).....	300M	60
300	.40	PS-30, Inside Frosted (750 Hrs.).....	300M/IF	60

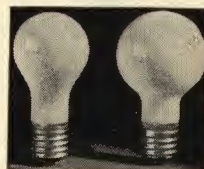
Mogul Screw Base

No. of Watts	Each	Bulb	Lamp Ordering Abbrev. (Ex. Volts)	No. in Std. Pkg.
300	\$.65	PS-35, Clear (1000 Hours).....	300	24
300	.70	PS-35, Inside Frosted (1000 Hours).....	300/IF	24
300	.70	PS-35, Inside White Bowl (1000 Hours).....	300/WB	24
500	.95	PS-40, Clear.....	500	24
500	1.00	PS-40, Inside Frosted.....	500/IF	24
750	2.90	PS-52, Clear.....	750	6
750	3.05	PS-52, Inside Frosted.....	750/IF	6
1000	3.10	PS-52, Clear.....	1000	6
1000	3.30	PS-52, Inside Frosted.....	1000/IF	6
1500	4.75	PS-52, Clear.....	1500	6

G-E Three-Lite Lamps

3-Contact

115, 120 and 125 Volts



PS-25

G-30

Mogul Screw Base

No. of Watts	Each	Bulb	Ordering Abbrev. (Ex. Volts)	No. in Std. Pkg.
50-100-150	\$.48	PS-25, Inside Frosted..	50/150	60
100-200-300	.60	G-30, White Indirect...	100/300	60
30- 70-100	\$.30	A-21, Inside Frosted..	30/100	120
50-100-150	.36	PS-25, Inside Frosted..	50/150M	60
50-100-150	1.15	R-40, White Indirect...	50/150R/W 24	

Medium Screw Base

No. of Watts	Each	Bulb	Ordering Abbrev. (Ex. Volts)	No. in Std. Pkg.
30- 70-100	\$.30	A-21, Inside Frosted..	30/100	120
50-100-150	.36	PS-25, Inside Frosted..	50/150M	60
50-100-150	1.15	R-40, White Indirect...	50/150R/W 24	

G-E Projector and Reflector Lamps

115, 120 and 125 Volts



PAR-38,
Projector Spot

PAR-38,
Projector Flood

R-40,
Reflector

The projector flood and spot lamps may be used indoors or outdoors, wherever reflectors must be free from effects of weather, vapor, dust and deterioration. Made of hard glass.

The reflector flood and spot lamps provide concentrated beam for feature store and window displays, or spread beam for floodlighting interiors and operations. Not for outdoor use.

Projector Lamps

Spot Lamp—Medium Skirted Base

No. of Watts	Each	Bulb	Lamp Ordering Abbrev. (Ex. Volts)	No. in Std. Pkg.
*150	\$1.55	PAR-38.....	150PAR/SP	12

Flood Lamp—Medium Skirted Base

*150	\$1.55	PAR-38.....	150PAR/FL	12
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Reflector Lamps

Spot Lamp—Medium Screw Base

75	\$1.05	R-30, Light Inside Frosted.....	75R30/SP	60
†150	1.05	R-40, Light Inside Frosted.....	150R/SP	24
*†300	1.55	R-40, Light Inside Frosted.....	300R/SP	24

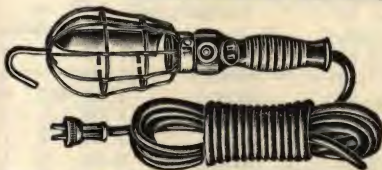
Flood Lamp—Medium Screw Base

75	\$1.05	R-30, Inside Frosted.....	75R30/FL	60
†150	1.05	R-40, Inside Frosted.....	150R/FL	24
*†300	1.55	R-40, Inside Frosted.....	300R/FL	24

*Should be burned only in porcelain sockets.

†May not give satisfactory performance if any accessory lighting equipment is attached to, or touches, glass bulb.

Woods Rocket Extension Lites



For garage, industrial, mill, shop, farm and home use.

Buna rubber shock proof handle with tool-tap side outlet.

Non-glare bulb protector guard

made from extra heavy gage steel wire with solid hook. Guard takes up to 100-watt bulb; eliminates glare.

Push-thru safety switch is rated at 660-watts and is Underwriter's approved. Heavy brass contact blades for tool-tap outlet.

With 18-gage, 2-conductor SJ type .300 o.d. rubber service cable. Spring action molded rubber attachment plug.

No.....	101	102	103
Length Cord.....feet	25	50	100
Std. Pkg.....	25	20	10
Weight Std. Pkg.....pounds	55	65	65

Woods Industrial Extension Sets

For shop, farm and plumbing use.

Extra heavy duty 16-gage, 2-conductor S type .405 o.d. flexible all rubber cable complete with cable grip rubber female cord connector and cable grip rubber attachment plug.

No.....	212	213	214
Length Cord.....feet	25	50	100
Std. Pkg.....	20	20	10
Weight Std. Pkg.....pounds	50	70	70

Woods Construction and Heavy Duty Power Extension Sets

For use with contractors' equipment, heavy motors, grinders, drills, saws, sanders and polishing machines.

Extra heavy duty 12-gage, 2-conductor S type .520 o.d. flexible all rubber cable with Hubbell heavy duty rubber female cable clamp connector and male attachment plug.

No.....	218	219	220
Length Cord.....feet	25	50	100
Std. Pkg.....	10	10	10
Weight Std. Pkg.....pounds	40	80	150

McGill Loxon Locking Lamp Guards

Used in garages, factories, yards, shops, basements and closets to secure double protection against breakage and unauthorized removal. Made of steel wire, heavily tinned; available in sizes to fit all sockets and for regular and mill type lamps. Easily attached and locked with key. One key is included with each dozen guards.



No. 1420



No. 1426



No. 1400

Plain Guards

No.	Each	Lamp Size Watts	Fits Socket	Weight Pounds per Doz.
*1420	\$.84	60	Brass	2 1/4
*1420-A	.84	60	W.P.	2 1/2
*1420-B	.84	60	W.P.	3
1426	.88	100	Brass	2 3/4
1428-A	.88	100	W.P.	3
1428-B	.88	100	W.P.	3 1/2
2444	1.04	200	Brass	3
2446-A	1.04	200	W.P.	3
2446-B	1.04	200	W.P.	3 1/2

Reflector Guards

*1400	\$1.08	60	Brass	3 1/2
*1401-A	1.08	60	W.P.	3 1/2
1443	1.14	75	Brass	4 1/2
1444-A	1.14	75	W.P.	4 1/2

*Also 50-watt rough service and 50-watt mill type lamps.

All Nos. followed by "A" fit any W.P. Socket with bottom bead measuring 1 1/8 inches in extreme diameter.

All Nos. followed by "B" fit any W.P. Socket with bottom bead measuring 1 3/4 inches in extreme diameter.

Clearsite Non-Renewable Plug Fuses



The fuse link is mounted under the fuse window thereby giving clear vision of the link. The drop-out type of link is used which lessens the internal operating pressure.

The fuse body is made of heat-resisting molded insulation, black in color.

Regular package consists of 50 plugs to a carton. Retail package consists of 5 plugs to a package, 100 plugs to a carton.

Standard Sizes

Cap. Amp.	Each	Regular Package No.	Retail Package No.
10	\$.07	4310	5710
15	.07	4315	5715
20	.07	4320	5720
25	.07	4325	5725
30	.07	4330	5730

Sub-Standard Sizes

Cap. Amp.	Each	Regular Package No.	Retail Package No.
3	\$.07	4303	5703
5	.07	4305	5705
6	.07	4306	5706
8	.07	4308	5708



Fuse



Link

Economy Renewable Plug Fuses

Fuses packed 10 in a carton; weight, 1 1/4 pounds.

Links packed 100 in a carton; weight, 2 ounces.

Fuses Standard Sizes

No.	Each	Capacity Amperes	No.	Each	Capacity Amperes
PF1068	\$.50	10	PR6810	\$.02	10
PF1568	.50	15	PR6815	.02	15
PF2068	.50	20	PR6820	.02	20
PF2568	.50	25	PR6825	.02	25
PF3068	.50	30	PR6830	.02	30

Sub-Standard Sizes

PF368	\$.50	3	PR6803	\$.02	3
PF568	.50	5	PR6805	.02	5
PF668	.50	6	PR6806	.02	6
PF868	.50	8	PR6808	.02	8

Economy Delay Renewable Cartridge Fuses



Ferrule Type—3 to 60 Amperes



Renewal Link—Ferrule Type



Knife Blade Type—61 to 600 Amperes



Renewal Link—Knife Blade Type
250 Volts

Listed by Underwriters' Laboratories

Always operate at rated capacities. May be used successfully under all conditions of service without filling material of any description.

The delay renewal link is quickly and easily replaced and the restoration of a blown fuse to its original efficiency takes only a few moments.

Eco Non-Indicating Non-Renewable Enclosed Fuses

250 and 600 Volts

Listed by Underwriters' Laboratories, Inc.

Made of heavy tubing. Caps are all brass, permanently rolled on the tube, not merely crimped. Caps on ferrule type fuses are pierced without distorting out-of-round, and the piercing not only permanently prevents relative movement, but it also provides full clip contact and a means for venting.

Heavy copper lead-in terminals are used and thereby provide accurate and dependable rating and performance. Unexcelled for uniformity of current-time operation.

Ferrule Type



Complete Fuses					Renewal Links				
Amp.	No.	Each	Length Inches	No. in Wt. Lb. Ctn. per Ctn.	No.	Each	No. in Wt. Lb. Ctn. per Ctn.		
3	F-325	\$.40	2	10 5/8	R-203	\$.02	100 3/16		
6	F-625	.40	2	10 5/8	R-206	.02	100 3/16		
10	F-1025	.40	2	10 5/8	R-210	.02	100 3/16		
15	F-1525	.40	2	10 5/8	R-215	.02	100 3/16		
20	F-2025	.40	2	10 5/8	R-220	.02	100 3/16		
25	F-2525	.40	2	10 5/8	R-225	.02	100 3/16		
30	F-3025	.40	2	10 5/8	R-230	.02	100 3/16		
35	F-3525	.80	3	10 13/8	R-235	.04	100 5/8		
40	F-4025	.80	3	10 13/8	R-240	.04	100 5/8		
45	F-4525	.80	3	10 13/8	R-245	.04	100 5/8		
50	F-5025	.80	3	10 13/8	R-250	.04	100 5/8		
60	F-6025	.80	3	10 13/8	R-260	.04	100 5/8		
70	F-7025	1.80	5 7/8	5 2	R-270	.09	50 7/8		
80	F-8025	1.80	5 7/8	5 2	R-280	.09	50 7/8		
90	F-9025	1.80	5 7/8	5 2	R-290	.09	50 7/8		
100	F-10025	1.80	5 7/8	5 2	R-2100	.09	50 7/8		
110	F-11025	4.00	7 1/8	1 1 1/16	R-2110	.20	25 1		
125	F-12525	4.00	7 1/8	1 1 1/16	R-2125	.20	25 1		
150	F-15025	4.00	7 1/8	1 1 1/16	R-2150	.20	25 1		
175	F-17525	4.00	7 1/8	1 1 1/16	R-2175	.20	25 1		
200	F-20025	4.00	7 1/8	1 1 1/16	R-2200	.20	25 1		
225	F-22525	7.20	8 5/8	1 2 1/16	R-2225	.36	12 1		
250	F-25025	7.20	8 5/8	1 2 1/16	R-2250	.36	12 1		
300	F-30025	7.20	8 5/8	1 2 1/16	R-2300	.36	12 1		
350	F-35025	7.20	8 5/8	1 2 1/16	R-2350	.36	12 1		
400	F-40025	7.20	8 5/8	1 2 1/16	R-2400	.36	12 1		
450	F-45025	11.00	10 3/8	1 3 1/2	R-2450	.55	10 1 1/4		
500	F-50025	11.00	10 3/8	1 3 1/2	R-2500	.55	10 1 1/4		
600	F-60025	11.00	10 3/8	1 3 1/2	R-2600	.55	10 1 1/4		

600 Volts

Amp.	No.	Each	Length Inches	No. in Wt. Lb. Ctn. per Ctn.	No.	Each	No. in Wt. Lb. Ctn. per Ctn.		
3	F-305	\$1.00	5	10 1 5/8	R-603	\$.05	100 1 1/16		
6	F-605	1.00	5	10 1 5/8	R-606	.05	100 1 1/16		
10	F-1005	1.00	5	10 1 5/8	R-610	.05	100 1 1/16		
15	F-1505	1.00	5	10 1 5/8	R-615	.05	100 1 1/16		
20	F-2005	1.00	5	10 1 5/8	R-620	.05	100 1 1/16		
25	F-2505	1.00	5	10 1 5/8	R-625	.05	100 1 1/16		
30	F-3005	1.00	5	10 1 5/8	R-630	.05	100 1 1/16		
35	F-3505	1.60	5 1/2	10 3 3/8	R-635	.08	100 2 3/16		
40	F-4005	1.60	5 1/2	10 3 3/8	R-640	.08	100 2 3/16		
45	F-4505	1.60	5 1/2	10 3 3/8	R-645	.08	100 2 3/16		
50	F-5005	1.60	5 1/2	10 3 3/8	R-650	.08	100 2 3/16		
60	F-6005	1.60	5 1/2	10 3 3/8	R-660	.08	100 2 3/16		
70	F-7005	3.60	7 7/8	5 3 3/8	R-670	.18	50 1 1/2		
80	F-8005	3.60	7 7/8	5 3 3/8	R-680	.18	50 1 1/2		
90	F-9005	3.60	7 7/8	5 3 3/8	R-690	.18	50 1 1/2		
100	F-10005	3.60	7 7/8	5 3 3/8	R-6100	.18	50 1 1/2		
110	F-11005	7.00	9 5/8	1 1 3/4	R-6110	.35	25 2 3/4		
125	F-12505	7.00	9 5/8	1 1 3/4	R-6125	.35	25 2 3/4		
150	F-15005	7.00	9 5/8	1 1 3/4	R-6150	.35	25 2 3/4		
175	F-17505	7.00	9 5/8	1 1 3/4	R-6175	.35	25 2 3/4		
200	F-20005	7.00	9 5/8	1 1 3/4	R-6200	.35	25 2 3/4		
225	F-22505	14.00	11 5/8	1 3 1/2	R-6225	.70	12 2 5/8		
250	F-25005	14.00	11 5/8	1 3 1/2	R-6250	.70	12 2 5/8		
300	F-30005	14.00	11 5/8	1 3 1/2	R-6300	.70	12 2 5/8		
350	F-35005	14.00	11 5/8	1 3 1/2	R-6350	.70	12 2 5/8		
400	F-40005	14.00	11 5/8	1 3 1/2	R-6400	.70	12 2 5/8		
450	F-45005	20.00	13 3/8	1 5 1/2	R-6450	1.00	10 4 7/8		
500	F-50005	20.00	13 3/8	1 5 1/2	R-6500	1.00	10 4 7/8		
600	F-60005	20.00	13 3/8	1 5 1/2	R-6600	1.00	10 4 7/8		

Cap. Amps.		250 Volts		600 Volts		No. in Carton
		No.	Each	No.	Each	
1	1101	\$.15		1601	\$.50	10
3	1103	.15		1603	.50	10
6	1106	.15		1606	.50	10
10	1110	.15		1610	.50	10
15	1115	.15		1615	.50	10
20	1120	.15		1620	.50	10
25	1125	.15		1625	.50	10
30	1130	.15		1630	.50	10
35	1135	.30		1635	.80	10
40	1140	.30		1640	.80	10
45	1145	.30		1645	.80	10
50	1150	.30		1650	.80	10
60	1160	.30		1660	.80	10

Knife Blade Type



Cap. Amps.		250 Volts		600 Volts		No. in Carton
		No.	Each	No.	Each	
70	11070	\$.90		16070	\$1.80	5
80	11080	.90		16080	1.80	5
90	11090	.90		16090	1.80	5
100	11100	.90		16100	1.80	5
110	11110	2.00		16110	3.50	1
125	11125	2.00		16125	3.50	1
150	11150	2.00		16150	3.50	1
175	11175	2.00		16175	3.50	1
200	11200	2.00		16200	3.50	1
225	11225	3.60		16225	7.00	1
250	11250	3.60		16250	7.00	1
300	11300	3.60		16300	7.00	1
350	11350	3.60		16350	7.00	1
400	11400	3.60		16400	7.00	1
450	11450	5.50		16450	10.00	1
500	11500	5.50		16500	10.00	1
600	11600	5.50		16600	10.00	1

No. 8203 Arrow Double T Slot Composition Attachment Plugs

660 Watts, 250 Volts



Base only.

Carton, 10. Standard package, 100. Weight per standard package, 19 pounds.

No. 8203 per 100 \$50.00

No. 7002 Arrow Standard Composition Attachment Plug Bodies

660 Watts, 250 Volts



Body only, 1 1/4 inches high.

Packed 10 in a carton. Standard package, 250.

Weight per standard package, 20 pounds.

*No. 7002 per 100 \$24.50

No. 345 Arrow 1-Piece Fuseless Plugs

660 Watts, 600 Volts



A molded weatherproof plug with 4½-inch leads of No. 14 rubber covered wire.

Carton, 10. Standard package, 250. Weight per standard package, 45 pounds.

No. 345.....per 100 \$66.50

No. 50715 Arrow Porcelain Cleat Receptacles

660 Watts, 250 Volts



Without shadeholder groove. Dimensions of base, 2⅞x2⅞ inches. Screw hole spacings, 1⅝ inches.

Carton, 10. Standard package, 100. Weight standard package, 26 pounds.

No. 50715.....per 100 \$28.30

No. 43310-B Arrow Weatherproof Sockets All Rubber

660 Watts, 600 Volts



An all-rubber socket with 6-inch wire leads. No. 14 B. & S. stranded R. C. wire is standard.

Standard package, 100. Carton, 10. Weight per standard package, 19 pounds.

No. 43310-B.....per 100 \$35.00

No. 43308 Arrow Pin Type Weatherproof Bakelite Sockets

With Suspension Hook

Medium—660 Watts, 250 Volts



For No. 12, 14 wire.

Carton, 10. Standard package, 100. Weight standard package, 12 pounds.

No. 43308.....per 100 \$30.00

No. 883 Arrow 2-Piece Porcelain Pull Outlet Box Receptacles

With Shadeholder Ring—250 Watts, 250 Volts



No. 883 has chain and 3-foot cord, 3¼-inch box.

Carton, 10. Standard package, 50.

Weight of standard package, 30 pounds.

No. 883.....per 100 \$60.50

Arrow 5500 Line Sockets 250 Volts



No. 5500



No. 5520



No. 5540

Standard finish is bright dipped. Body and cap are not sold separately. Price includes cap.

Pull, 250 Watts

No.	Bright Dipped per 100	Brush Brass per 100	Description	Std. Pkg.	Car-ton	Wt. Lb. Std. Pkg.
5500	\$64.50	....	⅛-Inch	250	25	41
5501	63.50	....	Pendent	250	25	37
Key, 250 Watts						
5520	\$47.80	....	⅛-Inch	250	25	53
5521	46.80	....	Pendent	250	25	49
Keyless, 660 Watts						
5540	\$40.00	....	⅛-Inch	250	25	46
5541	38.10	....	Pendent	250	25	42

Arrow Standard Size Composition Attachment Plug Caps

Parallel Blades



No. RA



No. RD

No.	Per 100	Cord Hole Inches	Description	Car-ton	Std. Pkg.	Wt. Lb. Std. Pkg.
RA	13/32 (.406)	Diam. 1½".....	10	250	25
RD	½ (.500)	Countersunk, for 5/8" Cord.....	10	250	25

Arrow Standard Size Rubber Attachment Plug Caps

15 Amperes, 125 Volts; 10 Amperes, 250 Volts

Parallel Blades



No. GG



No. GN



No. GNL

No.	Per 100	Cord Hole Inches	Description	Car-ton	Std. Pkg.	Wt. Lb. Std. Pkg.
GG	\$24.40	13/32 (.406)	Standard.....	25	100	8
GN	24.40	5/16 (.312)	Standard.....	25	100	8
GNL	27.30	11/32 (.343)	Standard.....	25	100	8

With Cord Grip



7845 \$49.00 1⅝-2⅞ (.296-.562) Std., Parallel 10 50 9

Arrow Standard Size Caps

With Armored Cord Grip—Parallel Blades

15 Amperes, 125 Volts; 10 Amperes, 250 Volts



No. RT



No. SS



No. 7842



No. 4437



No. GL

No.	Per 100	Cord Hole Inches	Description	Car-ton	Std. Pkg.	Wt. Lb. Std. Pkg.
RT	\$37.00	13/32	For 3/8" Heater Cord.....	10	50	7
RH	37.00	13/32	For 1/2" Cord.....	10	50	7
RI	37.00	1/2	Countersunk, for 5/8" Cord	10	50	7
SS	41.00	13/32	Steel Covered.....	10	50	7
7842	53.00	5/16-9/16	Steel Covered.....	10	50	7
4435	63.00	5/16-9/16	Steel Covered, Polarized.	10	50	7
4437	53.00	13/32-5/8	Steel Covered.....	10	50	7
4438	63.00	13/32-5/8	Steel Covered, Polarized.	10	50	7
GL	51.00	13/32	Rubber.....	10	50	6

Rubber Covered Wire

Single Conductor, Braided
Type R, 0-600 Volts

To meet Underwriters' requirements, sizes No. 8 and smaller must have at least one braid. All braids must be thoroughly saturated with moisture-resisting compound. Braids on single conductor Type R wires and cables must be saturated with flame-retarding and moisture-resisting compound.

Type R wire is flame retarding, moisture-resisting, easy to fish, resistant to abrasion, not subject to softening in hot weather, lubricated for easy installation, clean to handle, easily identified by fadeless colors.

Regularly furnished in black, white, red, blue, green and yellow. Black furnished unless otherwise specified.

Put up in coils.

Solid



Amer. Wire Gage (B. & S.)	Cir. Mills	Thick. Rubber In. (64ths)	Current Carrying Capacity Amps.	Approx. O.D. In.	No. of Feet per Std. Pkg.	Approx. Wt., Lbs. per 1000 Ft.
14	4107	3	15	.19	500	29
12	6530	3	20	.21	500	38
10	10380	3	25	.23	500	53
8	16510	4	35	.29	500	87

Stranded 7 Strands



Amer. Wire Gage (B. & S.)	Mills Cir.	Thick. Rubber In. (64ths)	Current Carrying Capacity Amps.	Approx. O.D. In.	No. of Feet per Std. Pkg.	Approx. Wt., Lbs. per 1000 Ft.
14	4107	3	15	.20	500	30
12	6530	3	20	.22	500	41
10	10380	3	25	.25	500	56
8	16510	4	35	.31	500	93

Twin Conductor Solid, Braided Type RD, 0-600 Volts

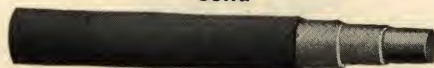


For twin conductor cables, Underwriters' require a tape or braid over the insulation of each individual conductor. On one of the conductors the tape or braid must be white for polarity marking. The tape or braid on the second conductor shall be black. Two such conductors are laid parallel, and one braid is applied overall.

Braids must be thoroughly saturated with moisture-resisting compound.

Amer. Wire Gage (B. & S.)	Cir. Mills	Thick. Rubber In. (64ths)	Approx. Outside Dimen. In.	STD. PACKING Ft. per Pkg.	Size of Reel	Approx. Wt., Lbs. per 1000 Ft.
14	4107	3	.24x.42	500	Coils	68
12	6530	3	.26x.46	500	Coils	87
10	10380	3	.28x.51	500	Coils	118
8	16510	4	.34x.63	500	Coils	191
6	26250	4	.38x.68	1000	330	263
4	41740	4	.42x.76	1000	331	374
3	52640	4	.45x.82	1000	331	450
2	66370	4	.48x.88	1000	336	544

Weatherproof and Slow Burning Wire Solid



Weatherproof

Consists of double or triple braids of closely woven covering, thoroughly impregnated with weatherproof compounds, and has a smooth, polished finish. Especially adapted to withstand changes in climatic conditions. Furnished either hard or soft temper for copper. Soft temper will be shipped unless otherwise specified.

Slow Burning. Consists of three all white braids of slow-burning insulation.

APPROXIMATE WEIGHT, POUNDS					
Size B. & S.	WEATHERPROOF TRIPLE BRAID Per 1000 Ft.	Per Mile	WEATHERPROOF DOUBLE BRAID Per 1000 Ft.	Per Mile	SLOW BURNING TRIPLE BRAID Per 1000 Ft.
10	53	280	46	243	75
12	35	185	30	158	55
14	25	132	20	106	40

Type S Portable Cord N.E.C.—600 Volts



For Portable Lamps, Tools and Other Appliances

A non-kinking cord with rubber insulated flexible copper conductors twisted and covered with rubber which is highly resistant to abrasion. Waterproof; acids, greases and alkalies have little, if any, effect upon it.

Supplied in standard lengths of approximately 250-feet in cartons or spools or coils. Longer lengths on reels.

Size	-2-Conductor-		-3-Conductor-		-4-Conductor-	
	Gross Wt., Lb. per 1000 Feet	O.D. In.	Gross Wt., Lb. per 1000 Feet	O.D. In.	Gross Wt., Lb. per 1000 Feet	O.D. In.
18	.390	.82	.405	.93	.435	1.14
16	.405	.93	.430	1.11	.485	1.40
14	.530	1.58	.560	2.99	.605	3.40
12	.605	3.16	.635	3.55	.665	3.95
10	.640	3.59	.690	4.20	.745	4.90

Prices upon application.

Type SJ Portable Cord

Made practically the same as the Type S except that it is smaller in diameter and lighter in weight. Suitable for service in offices, dwellings and similar places. Intended for service on such equipment as vacuum cleaners, refrigerators, fans, washing machines, lamps, office equipment and small electric tools. No. N.E.C. standards for size 14; 2, 3 and 4 conductor sizes 18 and 16 approved by Underwriters' for 300 volts.

Packed in cartons or on spools, each package containing approximately 250 feet.

Size	-2-Conductor-		-3-Conductor-		-4-Conductor-	
	Gross Wt., Lb. per 1000 Feet	O.D. In.	Gross Wt., Lb. per 1000 Feet	O.D. In.	Gross Wt., Lb. per 1000 Feet	O.D. In.
18	.305	.61	.335	.77	.360	.90
16	.330	.73	.360	.95	.390	1.10
14	.425	1.16	.470	1.50	....	....

Prices upon application.

Type C Twisted Pair Lamp Cord



For pendant or portable use in dry places.

Made with stranded copper conductors, paper separator, code rubber insulation, and green and yellow cotton braid on each conductor.

Maximum voltage rating 300 volts.

Conductor Size A.W.G.	Thick. Rubber Insulation In.	Nom. Over-all Diam. In.	Approx. Wt., Lb. per 1000 Feet	SPHOOLS No. in Std. Pkg.	Approx. Wt., Lb. per Std. Pkg.
18	16	30	1/32 .296	26	4
16	26	30	1/32 .318	35	4
14	41	30	3/64 .412	59	1

*Size coil.

No. 33 Scotch Brand Electrical Tape



Black plastic backing for electrical and mechanical protection. Does work of two other conventional tapes and eliminates one operation. Resists water, oil, acid alkalis and corrosive chemicals. Flexible. Stretches, molds snugly to any surface.

Thin, .007-inch thick; takes up minimum room in junction boxes.

Dielectric strength over 10,000 volts.

Packed 1 in a can, 12 cans in a carton.

No. 33, Size, 3/4 Inch by 66 Feet.....each \$1.50



U.S. Security Tape

Rubber Tape
(Splicing Compound)

Width.....inches 3/4
No. 8.....per roll
Approx. Ft. per Roll 21
Approx. Ship. Wt. per Rollpound 1/2



No. 8 Friction Tape

Non-raveling. Has good adhesive and tensile strength.

Width.....inches 3/4
No. 8.....per roll
Min. Ft. per Roll 60
Approx. Ship. Wt. per Rollpound 1/2

Bright Star Flashlight Batteries



No. 10M

Exceeds the service requirements prescribed by the National Bureau of Standards for intermittent service.

No. 05-17M. For marine use. Large size, 3-cell tubular, 4 1/2 volts. Length 7 1/8 inches; diameter, 1 3/8 inches. Unit package, 12; standard package, 120; weight, 73 pounds.

No. 05-17M.....each \$.40

No. 10M. No Leak. Large size, single cell, 1 1/2 volts. Length 2 3/8 in.; diameter, 1 3/8 in. Unit package, 48; std. pkg. 480; wt., 107 lb.

No. 10M.....each \$.125

No. 11M. Baby size, single cell 1 1/2 volts. Length, 1 7/8 inches; diameter, 1 inch. Unit package, 12; standard package, 60; weight, 6 pounds.

No. 11M.....each \$.125

No. 10MC Bright Star Industrial Leakproof Flashlight Batteries



Standard D Size battery for light or heavy intermittent service (meter-readers, night watchmen, inspectors, etc.).

Made of special ingredients to meet or exceed industrial service requirements of American Standard Specification C-18.

Battery is 1 3/8x2 3/8 inches.

Shelf life is guaranteed for 6 months.

Voltage is 1 1/2.

Packed 48 to a unit, 10 units or 480 to a standard shipping package which weighs 100 pounds.

No. 10MC.....each \$.15

No. 460 Bright Star Utility Lantern Batteries

6 Volts



A heavy duty 4-cell battery for all types of railroad and industrial lanterns. Fits all standard makes of lanterns.

Protected by asphaltum-treated inner lining jacket which is resistant to chemical penetration. Non-corrosive, brass spring contact terminals.

Shelf life, 12 months.

Length, 2 5/8 inches; width, 2 5/8 inches; height, 4 inches.

Standard shipping package, 25, shipping weight, 34 pounds.

No. 460, with Safety Flap.....each \$.80

No. 6 Bright Star Dry Cell Batteries



For telephones, ignition, radios, door bells, buzzers, etc.

Fahnestock spring binding posts are furnished without charge, when requested.

	General Purpose	Ignition	Industrial RR	Telephone	Protective Alarm
No.	6	6	6	6	6
Each.....	\$.80	.80	.85	.75	.80
Size.....inches	2 1/2x6	2 1/2x6	2 1/2x6	2 1/2x6	2 1/2x6
Standard Package.....	25	25	25	25	25
Shipping Weight.....pounds	53	53	54	57	53

Bright Star Vitaspark Batteries



Adapted for use in tractors, outboard motors, motor boats, gas engines, blasting, etc.

Composed of regular 6-inch ignition dry cells assembled as one unit. Internal connections are soldered and cells are insulated against accidental short circuits.

Shelf life, 1 year.

Cat. No.	Each	No. Cells	Size Inches	Volts	Std. Ship. Pkg.	Wt. Lb.	Std. Ship. Pkg.
146	\$3.50	4	10 1/2x2 3/4x7 1/2	6	6	60	60
156	4.50	5	8 x5 1/4x7 1/2	7 1/2	4	56	56
166	5.25	6	8 x5 1/2x7 1/2	9	3	48	48

Flashlight Lamps



Nos. 233, 13, 14

Packed 10 in a carton of same lamp number.



No. 222

Lamp.....No.	13	14	222	233	*PR-2	*PR-3	*PR-6	*PR-7
Each.....	\$.11	.11	.11	.11	.15	.15	.15	.15
No. Cells								
& Size.....	3-D	2-D	2-AA	2-C	2-D	3-D	2-D	3-D
Bulb.....	G-3 1/2	G-3 1/2	TL-3	G-3 1/2	B-3 1/2	B-3 1/2	B-3 1/2	B-3 1/2
Volts.....	3.8	2.5	2.2	2.3	2.4	3.6	2.5	3.8
Amps. Rat.....	0.30	0.30	0.25	0.27	0.50	0.50	0.30	0.30
Bead Color....	Green	Blue	White	Purple	Blue	Green	Brown	Pink

*Miniature flanged base.

No. 211 Big Beam Portable Electric Hand Lamps



Projects powerful ray 1500 feet.

Power 2 standard dry cell lantern batteries.

Chrome head and handle; silver plated brass reflector; baked red enamel steel container.

Packed individually, 12 to a case.

Net weight each 5½ pounds.

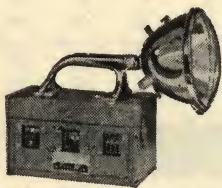
No. 211, without Batteries.....each \$12.50

Accessories

No. 200, Batteries, Lantern Type 6 Volts....per set	\$1.60
No. 225, Hold-Down Bracket.....each	2.00
No. 229, Clear Lens.....each	.60
No. 215, Carrying Strap.....each	1.00
No. 220, Wire Guard.....each	.75
No. 250, Snap-On Lens, Red, Green, or Flood.....each	1.50
No. 260, Main Bulb, 5V.....each	.45
No. 255, Small or Auxiliary Bulb, 5V.....each	.15

No. 311 Big Beam Portable Rechargeable Electric Hand Lamps

20 Ampere Hour Battery—2500 Foot Beam



Contains 3 built-in specific gravity indicators to show low charge.

Has 6-inch silvered reflector, 6-inch lamp head of 20-gage steel, chrome plated, and convex lens. Pre-focused bulb. Baked enameled finish container. Head adjustable.

No. 311.....each \$45.00

Accessories

No. 300, Storage Battery.....each	22.50
No. 350, Hold-Down Bracket.....each	4.25
No. 510, Swivel Fitting.....each	8.75
No. 515, Leather Shoulder Strap.....each	2.75
No. 525, 15-Ft. Ext. with 6-V. 25-W. Bulb & Adapter.....each	3.00
No. 720, Wire Guard.....each	1.25
No. 729, Clear Lens.....each	1.00
No. 730, Floodlight Lens.....each	1.40
No. 731, Red, Green and Blue Lens.....each	1.55
No. 750, Snap-on Lens, Red, Green, Blue and Floodlight.....each	3.25
No. 900, Main Bulb, 6-Volts, 2.35 Amps.....each	.65
No. 955, Auxiliary Bulb, 6-8 Volts, .45 Amps.....each	.15
No. 1280, Big Beam Charger.....each	20.00

No. A1530 Delta Powerlite Electric Lanterns



Lantern emits a piercing; 800-foot beam at front; floodlight at top. Two lights are under instant fingertip control from same switch.

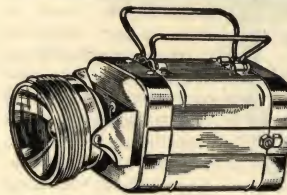
Operates on standard 6-volt lantern battery; 80 to 100 hour battery life.

Hangs by bail; hooks over nail in wall. Bail reverses for floodlight down. Finished in gray enamel.

Packed individually in carton. Weight each, 2½ lb. No. A1530, without Battery.....each \$4.95

No. 2108 Justrite Yellow-Flash Flashlights

For all flashlight purposes. Carries easily or stands firmly on square base. Headpiece tilts to any angle. Carrying



handles fold against case.

Has highly polished 2½-inch reflector. Uses eight standard size D flashlight batteries for maximum light, a 2500ft. beam of more than 9000 candle power.

Has convertible feature, which allows using a standard lantern battery and No.

27 bulb where less light but longer battery life is desired.

Overall size, 8x3x3 inches. Furnished with No. 965 bulb for 8-cell operation. Packed 3 in a counter display box or in individual boxes, 12 to a shipping carton. Shipping weight, 16 pounds.

No. 2108, Less Batteries.....each \$3.95

No. 2198 Justrite Yellow-Flash Lanterns

For farm, camp or boat. Compact, square case.

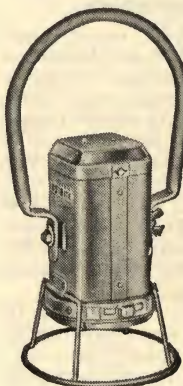
With two 8-cell type bulbs, mounted on sliding plate; either bulb gives strong spot beam or short-range diffused light. Move switch to interchange bulbs. Large bail for carrying or hanging. Glass lens covers Twin-Bulb reflector. Stands on guard-base with light directed at any angle; 7049 candlepower.

Overall size, 11½x6½x5 inches. Polished reflector, 3¼ inches.

Uses 8 flashlight cells (for maximum power) or 6-volt lantern battery (for battery economy).

Shipping weight, 2¼ pounds.

No. 2198, Less Batteries.....each \$4.45



Justrite Railroad Trainman's Lanterns

No. 2140 uses standard 6-volt battery and bulbs. One bulb is used for spot beam, other bulb extended for ordinary signals. Has reinforced aluminum tubing handle, welded steel guard, and space for two spare bulbs. Furnished with 3½-inch chrome reflector. Weight, 2 pounds.

No. 2140W has same features as No. 2140 except with glass globe over reflector and no bulb extension feature.

No. 2140, Without Battery, less Bulbs.....each \$4.00

No. 2140W, Without Battery, less Bulbs.....each \$5.00

Bright Star Safety Type Spotlights

Removable Switch—Prefocused
Listed by Underwriters' Laboratories



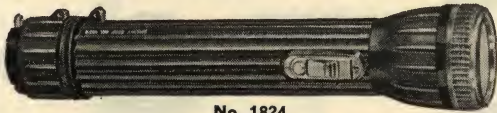
Underwriters' Class 1, Group D.; U.S. Bureau of Mines approved for hazardous locations. For use in methane-air mixtures. Should lamp break, spring ejects lamp base, breaking contact with circuit. Takes No. 10MC cells. Standard package, 20.

No.	2-Cell	3-Cell
No.	1717	1724
Less Batteries.....each	\$4.35	4.50
Size.....inches	7¾x2¼	10x2¼
Uses Mazda Lamp No.....	PR-6	PR-7
Ship. Wt. Std. Pkg.....lb.	11	12

Bright Star Safety Type Plastic Flashlights

Prefocused Industrial Spotlights

Approved by Underwriters' Laboratories & U.S. Bureau of Mines



No. 1824

Designed for use in methane and air mixtures. Has a special compression spring which breaks circuit if lamp breaks, thereby preventing fire.

Equipped with waterproof gaskets on both lens ring and bottom cap.

Three-way switch. Outer housing of switch is replaceable. Contact points on switch are hermetically sealed with a plastic diaphragm.

No.	1817	1824
Less Batteries.....each	\$4.50	\$4.70
Length.....inches	7 ¹³ / ₁₆	10 ¹ / ₁₆
Diameter.....inches	2 ¹ / ₄	2 ¹ / ₄
Number Cells.....	2	3
Battery No.....	10MC	10MC
Bulb No.....	PR-6	PR-7
Number per package.....	20	20
Shipping Weight.....pounds	11	12

No. 1800 Bright Star Plastic Flashlights

2-Cell Prefocused Right-Angle Spotlights



Waterproof. Has spare bulb compartment. Three-way switch—intermittent, steady and locked off. Belt and wall hanger clip.

Will not warp. Resists heat at better than 165°F. Under normal circumstances will not chip or break even when temperature is as low as minus 40°F. No frost bite when handling in cold weather. Will not dent when dropped or stepped on.

Uses battery No. 10M; bulb No. PR-2.

Size, 7¹/₂x2⁷/₈ inches. Olive drab color.

Individually packed; put up 50 to standard package. Shipping weight, standard package, 24 pounds.

No. 1800, less Batteries.....each \$2.15

No. 1608 Bright Star Plastic Flashlights

2-Cell Prefocused Spreadlights



Recommended for general industrial uses where Underwriters' Laboratories, Inc. and U. S. Bureau of Mines or U. S. Coast Guard regulations are not required.

Heavy duty. Removable switch.

Uses battery No. 10MC; bulb No. PR-6.

Size 7⁹/₈x2³/₁₆ inches.

Put up 10 to package. Shipping weight, standard package, 5 pounds.

No. 1608, Less Batteries.....each \$2.75

Bright Star Prefocused Industrial Flashlights



Made of plastic. Resists corrosion due to exhausted batteries. Not affected by oils, grease, gasoline or water. Switch and contact strip easily removed for cleaning or repair. Unbreakable lens. Red translucent lens ring. Equipped with spare bulb carrier.

Takes No. 10MC cells.

Packed in individual packages; 20 in a carton.

No.	1618	1625
Without Batteries.....each	\$2.75	3.00
No. of Batteries Required.....	2	3
Size.....inches	7 ⁵ / ₈ x2 ³ / ₁₆	9 ⁷ / ₈ x2 ³ / ₁₆
Lamp No.....	PR-6	PR-7
Shipping Weight per Carton.....pounds	9	10

No. 1725 Bright Star Prefocused Spotlights

3 Cell



A plastic spotlight with 3-way contact box switch and clip hanger. Not affected by oils, grease, gasoline or water.

Switch provides for intermittent, permanent or lock-on positions. Unbreakable lens. Red translucent lens ring adds safety feature. Reflector finished in polished silver. Size, 9⁷/₈x2³/₁₆ inches.

Equipped with lamp No. PR-7. Shock absorber protects lamp. Uses cell No. 10MC. Provision is made for carrying spare bulb in bottom cap.

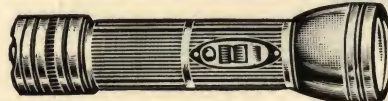
Packed 20 in a standard package, weight, 5¹/₂ pounds.

Supplied without batteries.

No. 1725, less Batteries.....each \$4.00

No. 2516 Bright Star Metal Flashlights

2-Cell Prefocused Chrome Spotlights



Equipped with spare bulb compartment and swivel ring hanger.

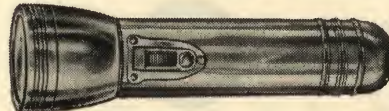
Bulb No. PR-2.

Individually wrapped; put up 30 to standard package. Shipping weight, standard package, 13 pounds.

No. 2516, less Batteries.....each \$2.10

No. 316 Bright Star Flashlights

2-Cell



Barrel is a high-luster metal tube, in assorted colors. Polished chrome fittings at top and

bottom; 3-way switch, silver-plated brass reflector. Std. packing, 3 on a display card, individual packing only if specified. Less batteries.....each \$1.55

No. 100 Bright Star 2-Cell Penlites

A flashlight designed to clip in pocket like a fountain pen.

Takes two Bright Star Penlite single-cell batteries and a miniature lamp No. 222.

Size, 5³/₈x³/₄ inches. Nickel finish.

Packed 12 on a card; weight, approximately 2 pounds.

No. 100.....each \$9.95



No. 59 Bright Star Penlite Single Cell Batteries

Packed 12 in a box; approximate weight, 1/2 pound.

No. 59.....each \$1.10



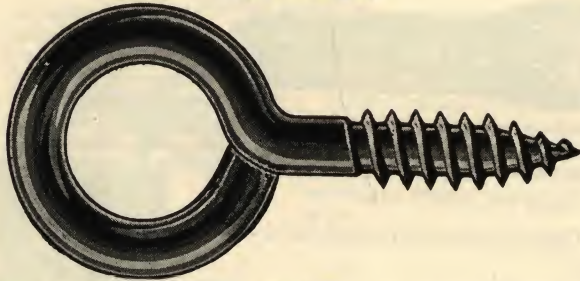
**A Complete SOURCE OF SUPPLY
FOR YOUR
INDUSTRIAL AND CONSTRUCTION NEEDS**

Hindley Screw Eyes

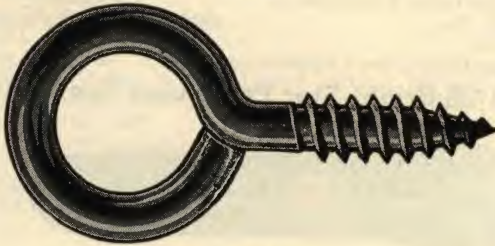
Large Size Eyes

Actual Size

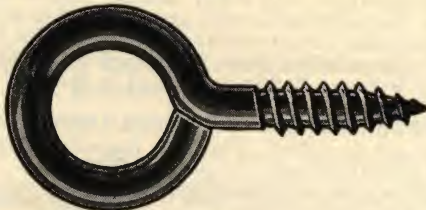
Medium Size Eyes



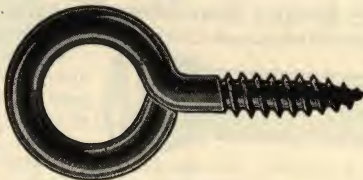
No. 0



No. 2



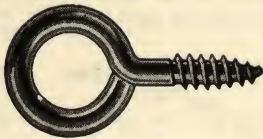
No. 4



No. 6



No. 8



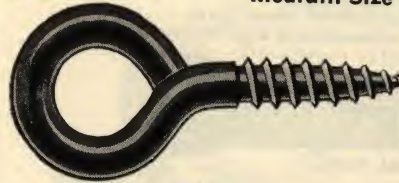
No. 10



No. 12



No. 14



No. 104



No. 106



No. 108



No. 110



No. 112



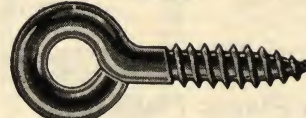
No. 114

Wire Gage No.	Bright No.	Per Gross	Brass No.	Per Gross	I.D. In.	Lgth. Shank In.	Over- all Lgth. In.	No. in Pkg. per Gross	Wt. Lb. per Gross
4	104	\$2.80	1104	\$13.25	31/64	1 1/8	2 1/16	1	5.15
6	106	1.75	1106	9.25	7/16	31/32	1 13/16	1	3.23
8	108	1.35	1108	5.00	25/64	13/16	1 9/16	1	1.99
9	109	1.15	....	....	11/32	3/4	1 7/16	1	1.52
10	110	1.00	1110	3.50	21/64	11/16	1 5/16	1	1.15
12	112	.80	1112	2.50	13/64	13/64	1 1/8	1	.58
14	114	.70	1114	2.25	1/4	1/2	1 1/16	1	.29

Small Size Eyes



No. 204



No. 206



No. 208



No. 210



No. 212



No. 214



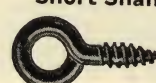
No. 216

Wire Gage No.	Bright No.	Per Gross	Brass No.	Per Gross	I.D. In.	Lgth. Shank In.	Over- all Lgth. In.	No. in Pkg. per Gross	Wt. Lb. per Gross
4	204	\$2.80	1204	\$13.75	19/64	1 1/8	1 15/16	1	4.01
6	206	1.75	1206	9.25	17/64	31/32	1 5/8	1	2.73
8	208	1.35	1208	5.00	15/64	13/16	1 3/8	1	1.61
10	210	1.00	1210	3.50	7/32	11/16	1 1/16	1	.94
11	211	.90	....	....	13/64	9/16	1 1/16	1	.70
12	212	.80	1212	2.50	3/16	37/64	1 5/16	1	.50
14	214	.70	1214	2.25	5/32	1 1/2	1 1/16	1	.24
16	216	.70	1216	2.25	9/64	7/16	1 1/16	1	.11

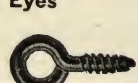
Short Shank Eyes



No. 114 1/2



No. 212 1/2



No. 214 1/2

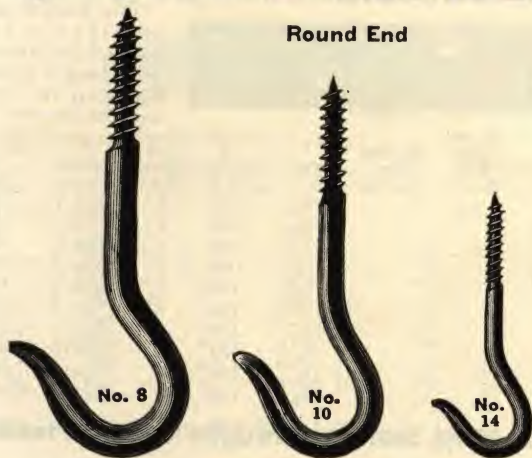


No. 216 1/2

Wire Gage No.	Bright No.	Per Gross	Brass No.	Per Gross	I.D. In.	Lgth. Shank In.	Over- all Lgth. In.	No. in Pkg. per Gross	Wt. Lb. per Gross
000	000	\$15.75	....	....	1 1/8	2 1/16	3 7/8	1/4	27.32
0	0	6.30	....	....	13/16	1 9/16	2 7/8	1/4	14.40
2	2	4.40	1002	\$22.00	23/32	1 5/8	2 5/8	1/4	9.20
4	4	2.80	1004	13.75	39/64	1 1/8	2 3/16	1/2	5.78
6	6	1.75	1006	9.25	17/32	13/16	1 5/8	1	3.52
8	8	1.35	1008	5.00	15/32	3/4	1 9/16	1	2.14
9	9	1.15	....	....	7/16	3/4	1 9/16	1	1.72
10	10	1.00	1010	3.50	13/32	11/16	1 3/8	1	1.29
12	12	.80	1012	2.50	3/8	37/64	1 3/8	1	.68
14	14	.70	1014	2.25	11/32	1/2	1 1/16	1	.36

Available in Cadmium, Brass, Nickel, Cadmium or Hot Galvanized

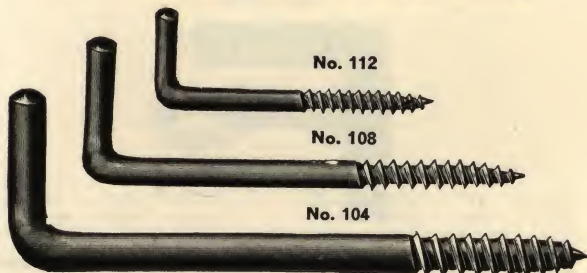
Bright Steel and Brass Wire Screw Hooks



No. 0 is packed $\frac{1}{4}$ gross in a box.
Nos. 2 to 4 are packed $\frac{1}{2}$ gross in a box.
Nos. 6 to 14 are packed 1 gross in a box.

Size Wire No.	Lgth. Overall Inches	I. D. Hook In.	Bright Steel			Brass		
			No.	Per Gross	Wt., Lb. per Gross	No.	Per Gross	Wt., Lb. per Gross
0	$4\frac{15}{16}$	$1\frac{1}{8}$	0	\$9.00	19.16	...	...	...
2	$4\frac{7}{16}$	$1\frac{1}{32}$	2	6.75	12.68	...	...	...
3	$4\frac{1}{8}$	$1\frac{3}{32}$	3	5.50	10.60	...	...	...
4	$3\frac{7}{8}$	$2\frac{9}{32}$	4	4.50	8.16	...	...	...
6	$3\frac{3}{8}$	$1\frac{13}{16}$	6	3.50	5.55	...	...	...
8	$2\frac{9}{16}$	$\frac{9}{16}$	8	2.00	2.91	1008	\$6.25	3.16
10	$2\frac{1}{16}$	$1\frac{1}{32}$	10	1.50	1.58	1010	4.00	1.77
12	$1\frac{11}{16}$	$1\frac{1}{32}$	12	1.25	.77	1012	2.75	.87
14	$1\frac{1}{16}$	$\frac{9}{32}$	14	.90	.34	1014	1.75	.40

Rolled Thread Square Screw Hooks

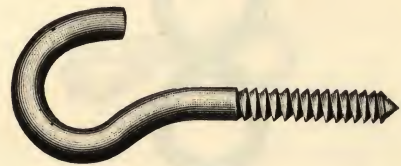


Illustrations full size. Packed 1 gross in a box.

Size Wire No.	No.	Per Gross	Bright Steel			Brass		
			Length Overall Inches	Length Hook Inches	Wt., Lb. per Gross	No.	Per Gross	Length Overall Inches
4	104	\$4.50	$3\frac{1}{16}$	1	5.70	1104	\$20.00	$3\frac{1}{16}$
6	106	3.00	$2\frac{5}{8}$	$\frac{7}{8}$	3.46	1106	11.00	$2\frac{5}{8}$
8	108	2.00	$2\frac{1}{4}$	$\frac{3}{4}$	2.18	1108	6.25	$2\frac{1}{4}$
10	110	1.50	$1\frac{13}{16}$	$\frac{5}{8}$	1.22	1110	4.00	$1\frac{13}{16}$
12	112	1.25	$1\frac{3}{8}$	$\frac{1}{2}$	.56	1112	2.75	$1\frac{3}{8}$
14	114	.90	1	$\frac{3}{8}$	.24	1114	1.75	1

No. 266 Wilcox Crittenden Screw Hooks

Galvanized Steel



Size Inches	Per Dozen	Extreme Length Inches	Width Opening Inches	Packed Dozen per Box	Wt. Lb. per Dozen
$\frac{1}{4}$	\$1.50	4	$1\frac{1}{16}$	2	$\frac{7}{8}$
$\frac{5}{16}$	2.00	4	$\frac{3}{4}$	2	$1\frac{3}{8}$
$\frac{3}{8}$	2.50	4	$1\frac{3}{16}$	1	$2\frac{1}{8}$
$\frac{1}{2}$	5.15	$5\frac{1}{2}$	1	1	$4\frac{5}{8}$

No. 181 Brass Cup Hooks



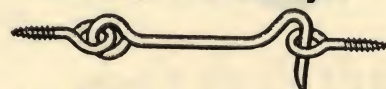
Upset shoulder, heavy base. Base will not come off the hook. Dipped and lacquered. Packed 1 gross in box.
Projection.....inches $\frac{1}{2}$ $\frac{5}{8}$ $\frac{3}{4}$ $\frac{7}{8}$ 1 $1\frac{1}{4}$ $1\frac{1}{2}$
No. 181.....per gross \$3.75 3.85 4.00 4.50 5.25 9.00 11.00
Wt. per Gross.....lb. .25 .37 .55 .81 1.25 2.20 3.25

No. 1412 Brass Screw Hooks



Upset shoulder, heavy base. Base will not come off the hook. Dipped and lacquered. Packed 1 gross in a box.
Projection.....inches $\frac{1}{2}$ $\frac{3}{4}$ 1 $1\frac{1}{2}$
No. 1412.....per gross \$4.50 4.80 6.30 13.50
Weight per Gross.....lb. .42 .87 1.28 2.47

Gate Hooks and Eyes



Steel hooks and eyes furnished in either a bright finish, No. 40 or a cadmium finish, No. 540.

Brass hooks and eyes furnished in solid brass, No. 1040.

Lgth. Hook In.	Steel per Gross	Brass per Gross	Wire Hook No.	Size Eye No.	Wire Hook In.	Diam. Eye In.	Gross per Pkg.	Wt. Lb. per Gr.
1	\$3.00	\$10.50	12	12	.105	.105	1	1.5
$1\frac{1}{2}$	3.35	11.50	10	12	.135	.105	1	3.0
2	3.75	13.25	9	10	.148	.135	$\frac{1}{2}$	4.3
$2\frac{1}{2}$	4.50	17.50	8	10	.162	.135	$\frac{1}{2}$	5.8
3	5.25	22.00	7	8	.177	.162	$\frac{1}{2}$	8.9
4	7.25	30.75	6	8	.192	.162	$\frac{1}{2}$	12.1
6	13.50	48.25	4	6	.225	.192	$\frac{1}{6}$	21.2
8	16.00	61.25	4	4	.225	.225	$\frac{1}{6}$	25.0
12	25.00	78.75	4	4	.225	.225	$\frac{1}{6}$	30.9

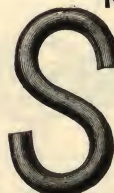
No. 1620E Heavy Brass Hooks and Eyes



Made of heavy brass, only in the sizes shown below.
Packed 144 hooks and eyes in a box.

Length.....inches	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
No. 1620E.....per gross	....	....	....	....

No. 71 Wrought Steel S Hooks



The hook has blunt points.

Size.....inches	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Dozen per Box.....	6	6	6	3

Bright Wire S Hooks



No. 811

Full size illustration. One gross in a box.

No.	809	810	811	812
Per Gross.....				
Size Wire No.....	9	10	11	12
Length Overall.....inches	2 1/8	1 5/8	1 1/4	1 1/8

No. 7 Harness Rings Japanned



Size.....inches	5/8	3/4	7/8	1	1 1/8	1 1/4
Per Gross.....						
Gross in Box.....	2	2	1	1	1	1
Wt. per Gross.....lb.	1 3/4	2 1/4	3	4	5	5

Breeching Rings Japanned

Size.....inches	Gage 3		Gage 1		
	1 1/2	1 3/4	2	2 1/2	3
Per Gross.....					
Gross in Box.....	1 1/2	1 1/2	1 1/8	1 1/4	1 1/6
Weight per Gross.....lb.	10 1/2	12	18 3/4	22 1/2	27 1/4

No. G-288 Laughlin Screw Eyebolts

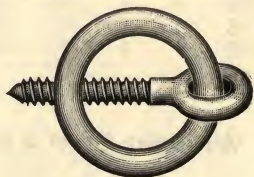
Drop Forged Steel, Galvanized—Large Eye



Diam. and Length Shank Inches	Each	I.D. Eye Inches	Weight Pounds per 100
1/4x2	\$.24	1/2	6 1/4
5/16x2 1/4	.28	5/8	11 1/2
3/8x2 1/2	.32	3/4	20 1/4
1/2x3 1/4	.45	1	46
5/8x4	.80	1 1/4	83
3/4x4 1/2	1.35	1 1/2	144

No. G-260 Laughlin Regular Screw Ring Bolts

Drop Forged Steel—Galvanized



Diam. and Lgth. Shank.....in.	1/4x2	5/16x2 1/4	3/8x2 1/2	1/2x3 1/4	5/8x4	3/4x4 1/2
No. G-260.....each	\$.55	.60	.75	1.10	1.70	2.70
Diam. of Stock in Ring.....in.	1/4	5/16	3/8	1/2	5/8	3/4
I.D. of Ring.....in.	1 3/4	2	2	2 1/2	2 3/4	3
Approx. Wt., per 100.....lb.	14	25	40	90	162	267

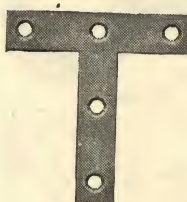
No. 995 Wrought Steel Mending Plates



The 8-inch and smaller sizes packed 2 dozen in box; larger sizes, 1 dozen in box; without screws.

Size In.	No. 995 Bright Steel Per Gr.	No. 995K Zinc Per GR.	Width In.	Gage of Metal Inches	Screw Holes in Each Plate	Size of Screw	Wt. Lb. per Gross
2	5/8	.072	2	3/4x7	3
2 1/2	5/8	.083	2	3/4x7	5
3	3/4	.095	4	3/4x8	8 3/4
3 1/2	3/4	.095	4	3/4x8	9 1/2
4	7/8	.109	4	3/4x8	14 3/4
5	1	.109	4	3/4x8	21 1/2
6	1 1/8	.120	4	3/4x9	33 1/2
8	1 1/4	.134	4	1 1/4x10	53 1/4
10	1 1/4	.156	6	1 1/4x10	92
12	1 1/4	.156	6	1 1/4x10	106

No. 995 1/2 Stanley Wrought Steel T Plates



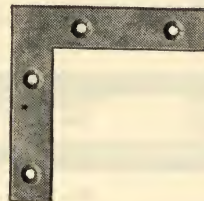
No. 995 1/2 bright steel, No. 995 1/2K zinc plated.

Size 6x6 inches packed 1 dozen in a box; other sizes, 2 dozen.

Supplied without screws.

Size.....inches	2 1/2x2 1/2	3x3	4x4	5x5	6x6
Width.....inches	1/2	5/8	3/4	1	1 1/8
Screw Holes in Plate....	5	5	5	5	5
Size Screws.....	7	8	8	9	9
Gage Metal.....	.078	.083	.083	.083	.123
Weight per Dozen....lb.	1/2	7/8	1 1/2	2 1/2	5 1/2

No. 999 Wrought Steel Corner Irons



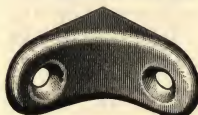
Size 8-inch packed 1 dozen in box; other sizes 2 dozen. Without screws.

Available either bright steel or (K) zinc plated.

Lgth. In.	Width In.	Gage of Metal	Qty. and Size of Wood Screws	Net Wt. Lb. per Gross	Lgth. In.	Width In.	Gage of Metal	Qty. and Size of Wood Screws	Net Wt. Lb. per Gross
1 1/2	3/8	.071	4-5/8x5	25 5/8	3 1/2	5/8	.077	4-3/4x8	12
2	3/8	.071	4-5/8x5	31 1/2	4	5/8	.077	4-3/4x8	13 1/4
2 1/2	3/8	.071	4-5/8x5	45 5/8	4	3/4	.077	4-3/4x8	17 5/8
2 1/2	1/2	.071	4-3/4x6	63 5/8	5	7/8	.077	4-3/4x8	24
3	1/2	.071	4-3/4x6	8	6	7/8	.083	6-3/4x9	33 1/4
3	5/8	.077	4-3/4x7	10 1/4	6	1	.083	6-3/4x9	36 3/4
3 1/2	1/2	.071	4-3/4x8	9	8	1 1/2	.095	8-3/4x9	84 3/4

No. 996 1/2 Stanley Wrought Steel Corner Irons

Countersunk as follows: 1x1-inch No. 8 screws; 2x2-inch No. 9. Dull copper finish. Packed 24 in a box.



Size.....inches	1x1	2x2
Per Gross.....		
Gage of Metal.....inches	.037	.050
Wt. per Gross....pounds	4 1/2	8 3/4

No. 997 Wrought Steel Corner Irons



Available in bright steel or zinc plated finish.

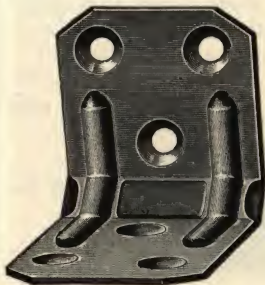
Sizes 1 to 3½-inch packed two dozen in a box, 4 to 6-inch, one dozen; 8-inch, one-half dozen.

Without screws.

Lgth. of Sides In.	Width In.	Gage of Metal	Size of Screws	No of Holes	Lgth. of Sides In.	Width In.	Gage of Metal	Size of Screws	No. of Holes
1	1½	.072	6	2	3½	¾	.148	9	4
1½	1½	.095	6	4	4	7/8	.165	10	4
2	5/8	.109	8	4	5	1	.180	10	6
2½	5/8	.120	8	4	6	1½	.180	12	6
3	¾	.134	9	4	8	1½	.220	12	6

No. 997½ Wrought Steel Corner Irons

Packed 24 in a box, without screws.



Side Lgth....in.	1	1½	2¼
Bright Steel			
.....per gr.			
J, Japanned			
.....per gr.			
K, Zinc Plated			
.....per gr.			
Width...inches	1	1½	1¾
Screw Holes in Plate.....	4	6	6
Size of Screws..	6	8	10
Metal Gage....	.071	.095	.095
Weight per Dozen.....lb.	½	1½	3

No. 25 Harness and Rope Snaps

Loop Eye

Cadmium Plated



Size of Eye Inches	No. Gross per Box	No. Gross per Case	Wt., Lb. per Gross	Size of Eye Inches	No. Gross per Box	No. Gross per Case	Wt. Lb. per Gross
5/8	1½	27	13¼	1¼	¼	13½	20¾
¾	1½	27	13¾	1½	¼	13	22½
7/8	1½	25	14¼	1¾	¼	12½	25¾
1	1½	25	14½	2	¼	10	27¼
1½	1½	25	14¾	...	..	..	....

No. 200 Loop Eye Harness and Rope Snaps



Cadmium plated or rubber.

Size Eye Inches	Per Gross	No. of Gross in Box	Wt. Lb. per Gross
5/8	1½	10¾
¾	1½	12
7/8	1½	13½
1	1½	14½
1½	1½	14¾
1¾	1½	22¼
1½	1½	23¾
1¾	1½	27¼
2	1½	31¾

No. 225 Harness and Rope Snaps

Swivel Round Eye



Made of iron, cadmium plated or rubber finish.

Size Eye.....inches	5/8	¾	1
Per Gross.....	.....	.....	.....
Length Overall.....inches	3½	3½	4½
No. Gross per Box.....	¼	¼	¼
No. Gross per Case.....	12½	10	10
Weight per Gross.....pounds	17¼	18½	39

Double Eye Snaps

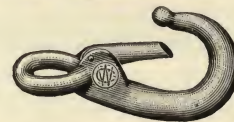
Double Pattern



Cast of malleable iron.

	Light	Medium	Heavy
No.....	161	162	163
Overall Length.....inches	3¼	4	4¾
No. of Gross per Box.....	½	½	¼
Weight per Gross.....pounds	12¾	17¼	29¾

No. 249 Wilcox Crittenden Boat Snaps Galvanized Malleable Iron or Bronze



Has fast eye.
Packed 1 dozen in a box.

Size No.....	0	1	2	3	4	5
Galvanized.....each	\$.55	\$.65	\$.70	\$.85	\$1.10	\$1.45
Burn. Bronze.....each	.60	.70	.80	1.05	.....	.....
Pol. Bronze.....each	1.05	1.15	1.40	1.80	.....	.....
I.D. of Eye.....inches	3/8	5/8	¾	¾	7/8	1½
Lgth. Overall.....inches	2	2¾	3¼	3¾	4½	4¾
*Diameter Stay.....inches	¼	5/16	3/8	½	5/8	¾
Weight per 100..pounds	5	10	13½	26¼	27½	43¾

*Diameter of rope, wire, ring, etc., which hook can swallow.

No. 340 Bag or Baby Snaps

Standard Weight—Loop Eye
Cadmium Plated



Packed 1 gross in a box.

Size of Eye.....inches	½	5/8	¾	1
Weight per Gross.....pounds	2¾	3	3¼	3¾

No. 334 Eberhard Bag Snaps

Swivel Eye

Malleable iron.

Packed 1 gross in a box.

Nickel plated or cadmium plated finish.



Size Eye.....inches	1/4	3/8
Overall Length.....inches	2	2
Weight per Gross.....pounds	2½	2¾

No. 1768 1/2 Corbin Awning Pulleys

Single Wheel—Swivel Eye



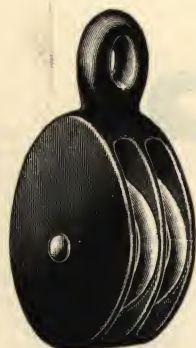
Made of cast iron, with malleable iron swivel eye; galvanized.

Sizes up to and including 1 1/2 inches, packed one dozen in a box; 2-inch size packed one-half dozen in a box.

Size.....inches	1/2	3/4	1	1 1/2	2
Wt. per Doz.....pounds	3/4	1 3/8	2	4 1/4	9 1/4

No. 1759 1/2 Corbin Awning Pulleys

Galvanized



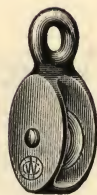
Made of cast iron.

Packed 1 dozen in a box.

Size.....inches	3/4	1	1 1/2
No. 1759 1/2.....per doz.	...	...	...
Weight per Doz.....lb.	2	3 3/8	7 1/2

No. 0174 Wilcox-Crittenden Single Fast Eye Awning Pulleys

Gray Iron—Galvanized



Diam. Sheave Inches	Per Dozen	For Rope Diameter Inches	No. Doz. in Box	Weight Pounds per Dozen
1/2	\$1.75	5/32	1	1
3/4	2.20	3/16	1	1 1/2
1	2.65	1/4	1	2 1/2
1 1/4	3.30	5/16	1	2 7/8
1 1/2	3.85	3/8	1	5 3/8
1 3/4	5.30	3/8	1	8 1/8
2	7.50	7/16	1	12 1/4
2 1/2	13.85	5/8	1 1/2	19 3/4

No. 1769 1/2 Corbin Awning Pulleys

Double Wheel—Swivel Eye



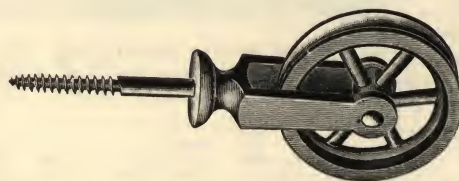
Made of cast iron, with malleable iron swivel eye; galvanized.

Packed 1 dozen in a box.

Size.....inches	3/4	1	1 1/2
Wt. per Doz..pounds	2 1/4	3 1/8	6 3/4

No. 1658 Corbin Screw Pulleys

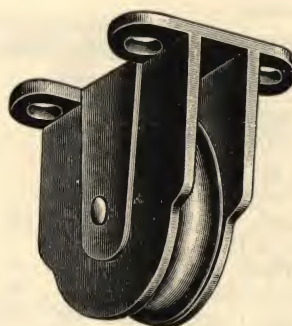
Wrought Steel Screw



Made of cast iron, galvanized.

Size.....	1	1 1/2	2	2 1/2
No. in a Box.....	24	24	24	12
Weight per Dozen.....pounds	1	1 3/8	2 1/2	4 1/2

No. 1666 Corbin Ceiling Pulleys



Made of cast iron; galvanized.

Size, 2 inches.

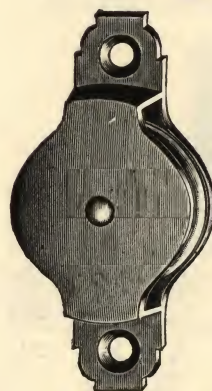
Packed 12 in a box, with screws.

Weight, 8 pounds per dozen.

No. 1666.....per dozen

No. 1770 Corbin Side Pulleys

Single Wheel



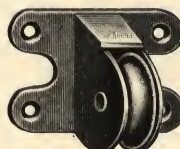
Made of cast iron, galvanized.

Furnished without screws.

Size.....	1	1 1/2	2	2 1/2	3
No. in Box...	24	24	12	6	6
Wt. per Doz.	...	...	...	...	...
.....lb.	1 3/4	2 1/4	4 7/8	7 3/4	12 1/4

No. 1743 Corbin Hot House Pulleys

Single Wheel



Made of cast iron, galvanized.

Size, 2 inches.

Furnished without screws.

Packed 12 in a box; weight 10 1/16 pounds.

No. 1743.....per dozen \$3.08

No. 1063 1/2 Corbin Line Cleats

Malleable Iron



Galvanized. Packed 2 dozen in box. With screws.

Size.....inches	4 1/2	6
No. 1063 1/2.....per dozen	...	...
Weight per dozen.....pound	1 1/16	1 5/8

No. 786½ Corbin Clothes Line Hooks



Made of cast iron; galvanized.

Plate 2x2 inches. Projection 2½ inches.

Packed 1 dozen in box with screws.

Weight 3½ pounds per dozen.

No. 786½.....per gross

Mortite Tape



A pliable tape that is used around windows, doors, transoms, ventilators, air ducts and wherever there are cracks, crevices or spaces through which wind seeps or heat escapes.

Plugs up cracks and holes in plaster and woodwork, around screens, air ducts, lavatories, etc.

Comes ready for use; unrolls like ribbon, is laid against crevice and then pressed snugly into place. Pliable, and will not crack or shrink. Can be smoothed off with knife or roller.

Packed 1 roll in a box; covers approximately 80 feet.
Per Roll.....\$1.25

Dennis Storm Queen Weatherstrip



No. 57

Made from high grade ½-inch thick gray cotton felt.
Packed in 3-color display sleeves in bulk.

No.	57-10	57-15	57-20
Per Gross Packages.....	\$21.00	28.50	38.00
Size.....inches	¾	¾	¾
Display Sleeve.....feet	10	15	20
Dozen Packages in Container.....	6	6	3
Weight per Carton.....pounds	7	10	7

In 100-Foot Coils

No.	57-101	57-102
Per 1000 Feet.....	\$19.50	20.00
Size.....inches	7/8	1

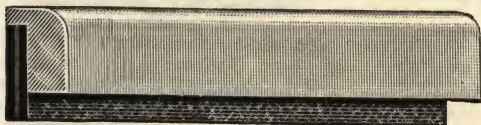
No. 65

Made from Osnaburg sheeting center; extra quality hair felt, ¾ inch thick.

Packed in 3-color sleeves and in display cartons.

No.	65-10	65-12	65-15	65-17	65-20
Per Gross Packages.....	\$22.00	24.00	27.00	30.00	36.00
Size.....in.	1 1/16	1 1/16	1 1/16	1 1/16	1 1/16
Display Sleeve.....ft.	10	12	15	17	20
Doz. Pkgs. in Container.....	6	6	6	3	3
Weight per Carton.....lb.	10	10½	11	8	11

Clincher Wood and Felt Weatherstrip



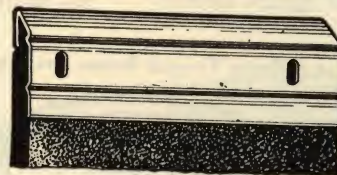
No. 70

Made from selected smooth kiln dried white pine molding inlaid with synthetic rubber shod felt. Oil stained walnut finish.

No. 70 for upper and No. 71 for lower sash of windows.
No. 71½ for sides and tops of doors and No. 74 for bottom.

No.	Per 100 Feet	Size Inches	Length, Ft.	Packed Ft. per Bundle	Wt. Lb. per Bundle
70	\$70.00	3/8x 1/2	6, 7, 12	500	13
71	70.00	3/8x 3/4	6, 7, 12	500	20
71½	95.00	3/8x1	6, 7, 10	500	25
74	120.00	1/2x1 1/4	3, 6, 7, 12	250	19
75	140.00	1/2x1 1/2	3, 6, 7, 12	250	22

Numetal Door Bottom Strips



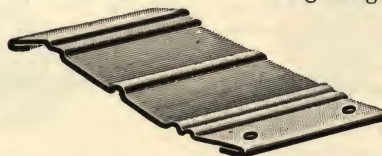
Has slotted holes for adjusting strip. Brass plated screws. Standard lengths, 32, 36, 42 and 48 inches.
Packed 6 of same length to carton.

No.	Alum. and Felt	Brass and Felt	Stainless Steel and Felt
Per Foot.....	E1-A	E1-B	E1-S
Wt. per Doz. 36-In. Lengths.....lb.	\$.23 3	.34 3½	.41 3½

No. 5000 Dennis Commercial Double Hemmed Bronze Weather Strip

With Adjustable Contact Edge

Double bead above tacking flange. Embossed bead in center.



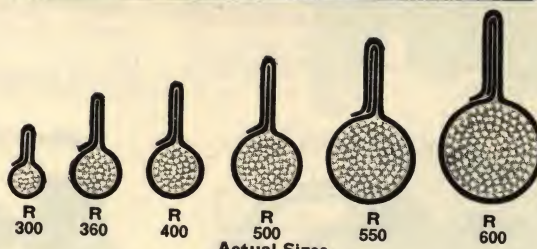
Bow tip assures true contact against sash or doors.

Full spring tempered.

Packed in 100-foot coils, complete with 5/8 inch x 17 copperweld nails. Packed 5 only, 100-foot coils in fiber shipping container.

Size.....inches	¾	1	1 1/8	1 1/4	1 3/8
No. 5000... per 1000 ft.	\$60.00	67.50	75.00	80.00	91.60
Thick. of Metal...in.	.007	.008	.0085	.009	.0095
Weight per 1000 feet.....pounds	40	50	57	65	75

Dennis Super-Flex Refrigerator Gaskets



Actual Sizes

Cotton yarn covered with triple coated black rubber sheeting which will not discolor. Packed in reels.

No.	Per 1000 Ft.	Size Inches	Ft. Wt. per Reel 1000 Ft.	No.	Per 1000 Ft.	Size Inches	Ft. Wt. per Reel 1000 Ft.
R300	\$40.00	1 1/8x 3/8	500 19	R500	75.00	3 1/2x 3/4	500 44
R350	45.00	3 1/16x 1 1/2	500 28	R550	100.00	1 1/16x 1 1/8	250 68
E360	50.00	1 1/2x 3/16	500 32	R600	125.00	1 1/2x1	250 78
R400	55.00	1 1/4x 5/8	500 36	R750	165.00	5/8x1 1/4	100 115
R450	65.00	5/16x 5/8	500 38	.....	.....	.....	.....

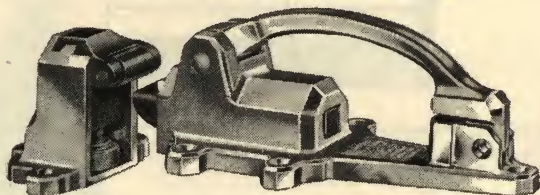
MATERIAL NOT LISTED

We can furnish many items not listed in this catalog.

Please send us all your inquiries.

Kason Refrigerator Hardware For Walk-In Coolers and Cold Storage Doors

Heavy Duty Forged Brass Latches



Reversible for right or left-hand doors.

All forged brass construction. Micrometer strike provides adjustments of hairline fineness. Supplied with inside release handle for automatic exit. Roller wedge mechanism assures positive air-tight seal. Furnished complete with latch, strike and inside handle.

Highly polished mirror chrome finish.

No.	K-54B	K-48
Each.	\$40.64	26.24
Overall Length. inches	14	10 1/2
Adjustable Offsets. inches	3/4 to 1 3/8	5/8 to 1 1/4

Flush latches also available; prices on application.

No. K-55 Safeguard Latches



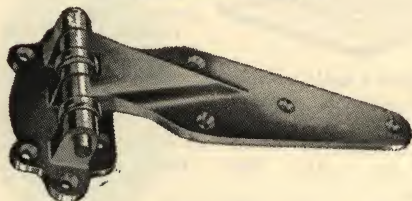
Provides safety from willful or accidental entrapment in cooler.

Has built-in safety mechanism. Regular inside handle unlatches door although latch is padlocked from the outside. Zinc die-cast housing with forged brass-handle and strike insert. Other features include micrometer strike and inside release handle.

Overall length, 15 1/4 inches; offset adjustments, 1 1/8 to 1 5/8 inches.

No. K-55, Chromium Plated. each	\$41.16
No. K-55, Aluminum Lacquered. each	33.44

Forged Brass Hinges



For large walk-in cooler doors. Reversible for right or left-hand doors.

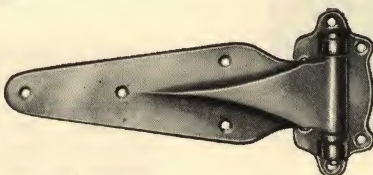
All forged brass construction. Equipped with two ball-bearing washers and built-in supporting lug to withstand stress and strain of heavy refrigerator doors. Furnished in specific offsets from 5/8 to 1 3/8 inches.

Highly polished mirror chrome finish.

No.	1037	1038	1055	1073
Per Pair.	\$22.24	25.20	27.00	42.78
Overall Lgth. in.	9 1/8	11 1/8	12 1/8	17

Flush hinges also available; prices on application.

Malleable Iron Hinges



A heavy duty hinge for a wide range of applications. Reversible for right or left-hand doors.

Bearing surfaces, precision milled for smooth action.

Standard offsets, 7/8, 1, 1 1/8 and 1 1/4 inches.

Cadmium plated finish.

No.	1409	1214
Per Pair.	\$10.42	11.58
Overall Length. inches	9 5/8	14 5/8

Steel Strap Hinges



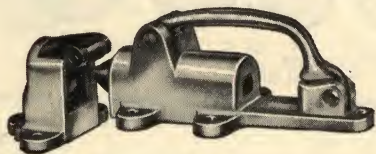
A cold storage door hinge with strap made of heavy steel and flange made of cast-iron. Reversible for right or left hand doors. Equipped with case-hardened ball-bearing washer and loose pin.

Furnished in specified offsets from flush to 2 inches.

Cadmium plated finish.

No.	1074	1075	1076
Per Pair.	\$9.52	14.14	18.08
Overall Length. in.	15 1/4	23 1/2	28 1/2

No. K-54A Latches



For massive cooler doors.

Reversible for right or left-hand doors.

Body and strike housings of pressure cast zinc alloy; handle of forged brass.

Overall length, 14 1/8 inches; offset adjustable from 7/8 to 1 1/4 inches.

Furnished complete with latch, strike and inside release handle.

No. K-54A, Aluminum Lacquered	each	\$22.50
No. K-54-A, Chromium Plated	each	38.20

Heavy Duty Iron Latches



Slam type walk-in cooler latch with body and strike housings of cast-iron; handle and strike insert of malleable iron. Positive padlocking feature for theft protection.

Offset adjustments from 7/8 to 1 3/8 inches.

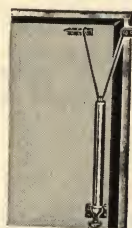
Furnished complete with latch, strike and inside handle.

Kasonized finish.

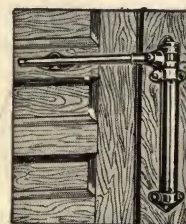
No.	K-53	*K-52
Each.	\$18.00	16.72
Overall Length. inches	14 1/4	11

*Also available with strike adjustable from 1/4 inch below flush to 3/8 inch.

Automatic Door Closers



No. 1095

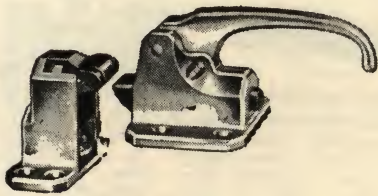


No. 1097

No. 1095. For attachment to inside of door. Automatically closes heavy cooler or super-freezer doors. Desired spring tension obtained by adjusting knob at bottom or extending the distance between arms. Galvanized finish. No. 1095. each \$12.08

No. 1097. For attachment to outside of door. Operates any make of cold storage door. Special alloy steel spring fully enclosed in metal housing. Spring tension easily adjusted for various door sizes. Cam device provided to hold door open during loading operations. No. 1097, Galvanized. each \$31.50
No. 1097, Chrom. Plated. each 77.16

Wedge Seal Latches
For Reach-In Service Doors

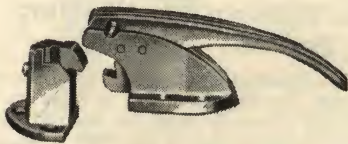


Micrometer strike adjusts offset to the thousandth of an inch. Body and strike housings of pressure cast zinc alloy; handle of forged brass. Also available in all forged brass construction; prices on application.

Highly polished mirror chrome finish.

No.	K-40	K-20
Each.	\$8.56	\$6.54
Overall Lgth. in.	7	5 7/8
Adj. Offsets. in.	5/8 to 1 1/4	3/8 to 7/8 or 7/8 to 1 1/2

Trigger Action Latches
For Reach-In Service Doors



For commercial refrigerator units. Reversible for either right or left hand doors.

Body and strike housings of pressure cast zinc alloy; handle, striker, and tongue of forged brass. Hairline fine adjustments can be made with micrometer strike.

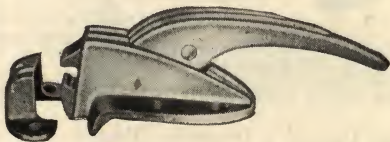
Chrome finish.

No.	930	931
Each.	\$6.18	7.84
Overall Lgth. in.	7 1/4	7 1/2
Adj. Offsets. in.	3/4 to 1 1/4	7/8 to 1 1/8 or 1 1/8 to 1 1/2

Micrometer Adjustable Strikes

Provides offset adjustments of hair line fineness to the thousandth of an inch by a turn of the micrometer screw. Assures air-tight doors at all times.

No. 2101 Snap Type Latches
For Reach-In Service Doors

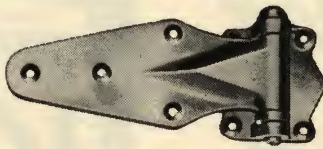


Wrought brass latch for domestic refrigerators, back-bar doors, ice-boxes, etc. Overall length, 6 5/8 inches; standard offsets, 5/8, 3/4, and 7/8 inch.

Highly polished chrome finish.

No. 2101.....each \$5.10

Kason Refrigerator Hardware
Ball-Bearing Hinges
For Reach-In Service Doors



Reversible for either right or left-hand doors.

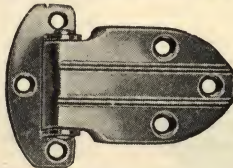
Precision milled bearing surfaces plus ball-bearing washers assure smooth floating action. Available in all specified offsets from 3/8 to 1 1/8 in.

High luster chrome finish.

No.	1070-A	1071-A
Zinc Die-Cast. per pr.	\$5.30	\$7.00
Forged Brass. per pr.	8.28	9.70
Overall Lgth. inches	6 1/4	7 1/2

Flush hinges also available; prices on application.

No. 2201 Wrought Brass Hinges
For Reach-In Service Doors



For domestic and light commercial applications. Overall length, 3 3/4 in.; standard offsets, 5/8, 3/4 and 7/8 in.

Highly polished chromium plated finish.

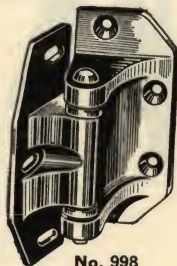
No. 2201.....per pair \$3.12

Edgemount Hinges

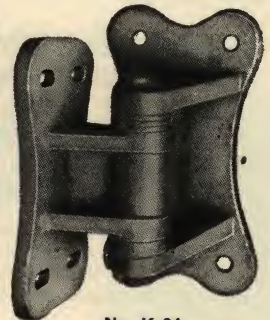
No. K94. For doors of 5-inch offset or greater. Reversible for either right or left-hand doors. Overall dimensions: flange, 4x7 7/8 inches; strap, 4x6 3/8 inches.

No. 998. For doors of 4-inch offset or greater. Reversible for either right or left-hand doors. Double ball-bearing construction. Overall dimensions: flange, 2 1/4x6 inches; strap, 2 1/2x6 inches.

No.	K-94	998
Iron, Kasonized Fin. per pr.	\$32.66	\$23.40
Brass, Chrom. Fin. per pr.	86.40	38.58



No. 998



No. K-94

No. 199 Trigger Action Dual

Latches

For Super-Freezer Doors

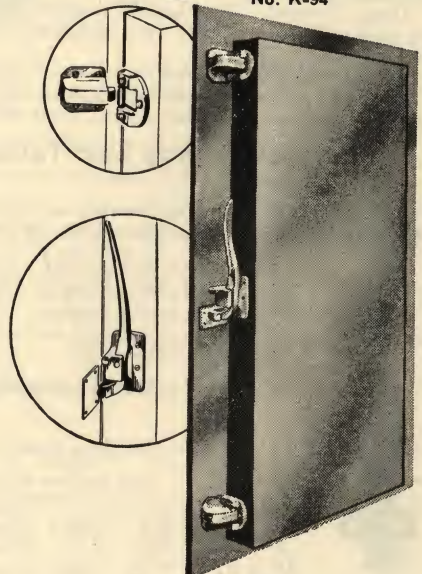
Adaptable for doors of 4-inch offset or greater.

Interchangeable for either right or left-hand doors.

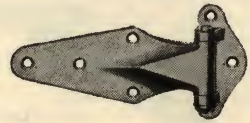
Latch set comprised of two trigger-action sealing units, outside break-away handle and inside release handle. Double latching maintains airtight seal; prevents building up of frost. Strikes adjustable to compensate for wear and flattening of gasket.

No. 199, Iron with Kasonized Finish.....each \$63.02

No. 199, Brass with Chromium Finish.....each 106.74



Narrow Flange Hinges
For Reach-In Service Doors



For use on commercial and heavy domestic refrigerators. Reversible for either right or left-hand doors.

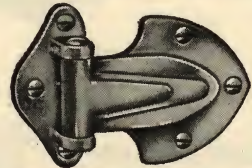
Available in all specified offsets from 5/8 to 1 1/8 inches.

High luster chrome finish.

No.	1070	1071
Zinc Die-Cast. per pr.	\$4.92	\$6.54
Forged Brass. per pr.	6.84	9.34
Overall Lgth. inches	6 1/8	7 1/4

Flush hinges available on request.

No. 139 Streamline Hinges
For Reach-In Service Doors



For small service doors where minimum of space is allowed for hardware.

Made of pressure cast zinc alloy with stainless steel pin and washers.

Overall length, 4 1/2 inches; standard offsets, 5/8, 3/4, 7/8, 1 and 1 1/8 inches.

Mirror chrome finish.

No. 139.....per pair \$4.98

No. 446 Stanley Steel Table Leg Braces



Left Hand

Extra heavy type for banquet tables, folding counters, folding wall racks, roadside stands, etc.

Made with a positive locking feature. When folded, legs lie flat against table.

Gage metal, .187. Length overall, 16 $\frac{3}{8}$ inches; width, 1 $\frac{1}{4}$ inches. Furnished with five 1x12-inch flat head screws.

Bright zinc plated finish.

Packed 2 pairs in a box with screws. Packed 10 pairs in a case. Approximate case weight, 37 pounds.

No. 446 $\frac{1}{4}$ Stanley Steel Table Leg Braces



Right Hand

For table-tennis tables.

Made with a positive locking feature. Braces insure rigid, sturdy legs when open, and when closed, permit legs to be folded flat against the table.

Gage metal, .125. Length overall, 13 $\frac{1}{2}$ inches; width, $\frac{5}{8}$ inch. Furnished with one $\frac{3}{4}$ x10-inch round head wood screws for arm and two $\frac{3}{4}$ x7-inch flat head screws for base.

Bright zinc plated finish.

Packed 6 pairs in a box with screws. Packed 60 pairs in a case.

Approximate case weight, 50 pounds.

No. 446 $\frac{1}{2}$ Stanley Steel Table Leg Braces



Left Hand

For table-tennis tables.

Made with a positive locking feature. The braces insure rigid, sturdy legs when open, and when closed, permit the legs to be folded flat against the table.

Made without a base for tables with reinforcing rails along the edges.

Gage of metal, .125. Length overall, 13 $\frac{1}{4}$ inches; width, $\frac{5}{8}$ inch. Furnished with two $\frac{3}{4}$ x10-inch round head wood screws.

Bright zinc plated finish.

Packed 6 pairs in a box with screws. Packed 60 pairs in a case. Approximate case weight, 42 pounds.

Stanley Steel Drop Leaf Table Supports



Positive and quick action. Spring tension holds leaf in place when in dropped position.

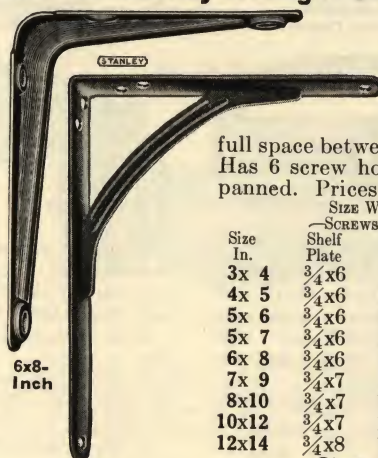
When correctly applied, support cannot jack-knife accidentally because leaf is held securely in place by spring tension.

Brown lacquer finish.

Packed 1 pair in a box with screws.

Size In.	LEAF OFFSET, INCHES					No. of Pairs in a Case	Approx. Case Wt. Lb.
	$\frac{1}{2}$	1	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$		
6	3 $\frac{1}{2}$	3 $\frac{1}{4}$	2 $\frac{13}{16}$	2 $\frac{1}{2}$	2 $\frac{1}{8}$	72	31
8	3 $\frac{1}{2}$	3 $\frac{3}{16}$	2 $\frac{7}{8}$	2 $\frac{1}{2}$	2 $\frac{1}{8}$	72	42
10	5	4 $\frac{11}{16}$	4 $\frac{7}{16}$	4	3 $\frac{9}{16}$	72	46

No. 796 Stanley Wrought Steel Shelf Brackets



6x8-Inch

16x18-Inch

Made of one-piece cold rolled steel. The forming of the metal provides strength. The shape of the bracket allows use of

full space between shelves built in tiers. Has 6 screw holes. Finish, bright japanned. Prices do not include screws.

Size In.	SIZE WOOD SCREWS, IN.—		No. Pairs in Box	Dozen Pairs in Carton	Average Wt. Lb.
	Shelf Plate	Wall Plate			
3x 4	$\frac{3}{4}$ x6	$\frac{3}{4}$ x6	12	6	15
4x 5	$\frac{3}{4}$ x6	1 $\frac{1}{4}$ x6	12	6	18
5x 6	$\frac{3}{4}$ x6	1 $\frac{1}{4}$ x6	6	12	52
5x 7	$\frac{3}{4}$ x6	1 $\frac{1}{4}$ x6	6	10	49
6x 8	$\frac{3}{4}$ x6	1 $\frac{1}{4}$ x6	6	8	61
7x 9	$\frac{3}{4}$ x7	1 $\frac{1}{4}$ x7	6	5	61
8x10	$\frac{3}{4}$ x7	1 $\frac{1}{4}$ x7	3	5	67
10x12	$\frac{3}{4}$ x7	1 $\frac{1}{4}$ x7	3	3	52
12x14	$\frac{3}{4}$ x8	1 $\frac{1}{4}$ x8	3	2	51

Size, 16x18 Inches

Corrugated braces and embossed plates. Has slot for sink bolts. Has eight screw holes.

16x18	1x10	1 $\frac{1}{2}$ x10	1	1 $\frac{1}{12}$	5
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No. 794 Stanley Wrought Steel Folding Brackets



This bracket is designed for use on porches, for flower boxes, in pantries or kitchens where a shelf is desired that can be dropped out of the way when not in use.

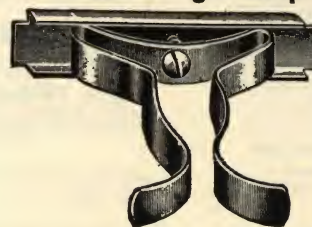
Locks automatically when open, and can be let down out of the way quickly and easily.

Six screw holes in each bracket.

Packed one pair in a box without screws.

Size Inches	J. Japanned per Dozen Pairs	SIZE OF SCREWS, INCHES		Weight Pounds per Doz. Pairs
		Shelf Plate	Wall Plate	
8x 8	$\frac{3}{4}$ x7	1 $\frac{1}{4}$ x7	15
12x12	$\frac{3}{4}$ x8	1 $\frac{1}{4}$ x8	29 $\frac{1}{2}$
16x16	$\frac{3}{4}$ x9	1 $\frac{1}{4}$ x9	46 $\frac{1}{2}$

Platt Finger Grip Adjustable Clips



For holding tools, brushes, brooms, mops, grease guns, etc. Handy for many other purposes in factory, workshop, or home.

Turning the screw opens or closes the clip to fit handles of various sizes.

Base plate, supplied with each clip, has channel to

prevent clip from turning and marring the wall.

Made of fine spring steel; nickel plated and burnished finish.

No. 1-B, Medium Size, Packed 4 Dozen in Display Box, Approximate Shipping Weight, 2 $\frac{1}{4}$ Pounds

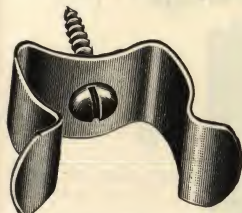
No. 1-T, Packed $\frac{1}{2}$ Gross in Plain Box, Approximate Shipping Weight, 3 Pounds.....per gross **10.20**

No. 2-B, Large Size, Packed 3 Dozen in Display Box, Approximate Shipping Weight, 2 $\frac{1}{2}$ Pounds.....per gross **14.40**

No. 2-T, Packed 6 Dozen in Plain Box, Approximate Shipping Weight, 4 $\frac{3}{4}$ Pounds.....per gross **13.00**

Platt Finger Grip Adjustable Clips

Short Type



For holding tools, brushes, brooms, mops, etc. For other purposes in home, workshops, tool cabinets, display stands.

Turning screw opens or closes clip to fit various sized handles; provides any tension; holds light or heavy articles. Clips spring tempered. Packed 1 gross in box with screws.

- No. 28, For Sizes $\frac{3}{16}$ to $\frac{3}{8}$ -Inch in Diameter, Approximate Shipping Weight, $\frac{3}{4}$ Pound.....per gross \$2.40
 No. 48, For Sizes $\frac{1}{4}$ to $\frac{1}{2}$ -Inch in Diameter, Approximate Shipping Weight, $\frac{3}{4}$ Pound.....per gross 2.40
 No. 68, For Sizes $\frac{1}{2}$ to $\frac{3}{8}$ -Inch in Diameter, Approximate Shipping Weight, $1\frac{1}{2}$ Pounds.....per gross 3.60
 No. 88, For Sizes $\frac{1}{8}$ to $1\frac{1}{4}$ -Inch in Diameter, Approximate Shipping Weight, 3 Pounds.....per gross 4.80

Platt Finger Grip Adjustable Clips



For holding articles on display boards and fixtures, hanging small tools, equipping kitchen cabinets and dust closets, and many other purposes.

Fastens to any woodwork and is quickly adjustable. Holds all sizes from $\frac{3}{16}$ to $\frac{3}{4}$ inch diameter with any desired tension.

Made of tempered spring steel, finished in polished nickel.

Carton contains 16 gross.

- No. 0, Packed in Plain Box with Screws, Approximate Shipping Weight, 2 Pounds.....per gross \$4.50
 No. 0-B, Packed 1 Gross in Display Box, Approximate Shipping Weight, $2\frac{1}{4}$ Pounds.....per gross 4.80

No. 432 Stanley Lid Supports



Not reversible. When ordering singly, specify hand.

Length, 10 inches.

Size of wood screws, is No. 7 gage, $\frac{3}{4}$ -inch long.

Packed 1 dozen pairs in a box (one-half right hand) with wood screws.

Average net weight per dozen pairs, $3\frac{1}{4}$ pounds.

- No. 432C, Bright Brass.....per dozen pairs
 No. 432N, Bright Nickel.....per dozen pairs

No. 1721 Corbin Stay and Support Hinges



Made of steel, brass plated. Gage of metal, .058.

Overall length open, $4\frac{5}{16}$ inches. Width, $\frac{3}{8}$ inch.

Holes countersunk for $\frac{5}{8}$ -4 inch flat head screws.

Packed 1 dozen pairs in a box without screws.

Weight per dozen pairs, $\frac{3}{4}$ pound.

- No. 1721.....per dozen pairs

No. 8406 Champion Hand Rail Brackets



Made of one-piece cast aluminum alloy. Is easy to apply and can be adjusted to any position.

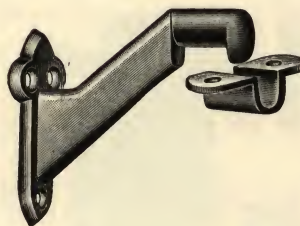
Base to center of rail, 2 inches.

Packed with screws, 12 in a box.

Weight per box, 5 pounds.

No.	Finish	Per Doz.
8406C	Dull Brass.....	\$4.88
8406H	Dead Black....	4.88
8406J	Japanned.....	4.66

No. 100 $\frac{1}{2}$ Corbin Cast Iron Hand Rail Brackets



Made of cast iron, unpolished.

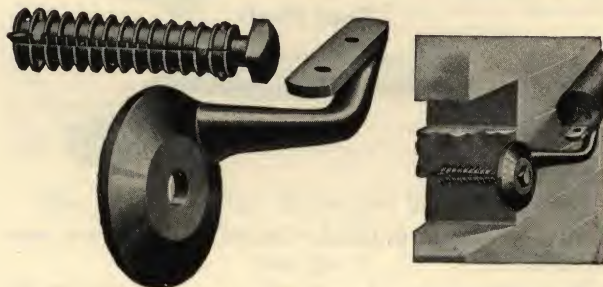
Base, $1\frac{1}{16}$ x3 inches. From base to center of rail, $2\frac{3}{4}$ inches.

Packed 1 dozen in a box, with screws. Weight per dozen, $5\frac{3}{4}$ pounds.

- No. D100 $\frac{1}{2}$, Dull Black.....per dozen

- No. EA100 $\frac{1}{2}$, Brass Plated, Dull.....per dozen

No. 666 R-W Holdtite Stair Rail Brackets



Made of malleable iron. The 3-inch base assures a good bearing on the wall and the bracket is securely held by a $\frac{1}{2}$ x4-inch expansion bolt.

Head of lag screw finished to match bracket.

The projection of the rail is 3 inches to center.

FINISHES: Black enamel regular. Also furnished bronze plated, antique copper, lemon brass and antique brass plated on unpolished or polished iron.

Can be furnished made of brass or bronze metal. Price on application.

When ordering, state whether unpolished or polished finish is desired.

Packed 12 in box with expansion bolts.

No.	Finish	Regular Each	Unpolished Each
666	Black Enamel.....	\$1.30	.....
666	Bronze Plated.....	.....	\$2.15
666	Antique Copper Plated.....	.....	2.15
666	Lemon Brass.....	.....	2.15
666	Antique Brass Plated.....	.....	2.15

No. 1100 Corbin Door Pulls



Made of cast iron, gloss black. Size $2\frac{3}{8} \times 3\frac{5}{8}$ inches.

Packed 12 in a box, without screws.

Weight, $4\frac{3}{4}$ pounds per dozen.

No. 1100.....per dozen

No. 482 Wrought Steel Door Pulls



Packed 1 dozen in a box with wood screws, except No. 4, which is packed $\frac{1}{2}$ dozen in a box with wood screws.

Size No.	1	2	3	4
No. 482, Japanned				
.....per dozen				
Size.....inches	$5 \times 1\frac{1}{4}$	$5\frac{3}{4} \times 1\frac{1}{2}$	$6\frac{1}{2} \times 1\frac{3}{4}$	$7\frac{7}{8} \times 2\frac{1}{4}$
Size Wood Screws	$\frac{3}{4} \times 7$	$\frac{3}{4} \times 8$	1×9	$1\frac{1}{4} \times 12$
Approx. Net Wt.				
per doz.....lb.	$1\frac{1}{2}$	2	3	$6\frac{1}{4}$

No. 5210 Champion Wrought Steel Door Pulls



Size, 5 inches.

Grip is wrought in tubular construction from one piece of steel.

Packed 3 dozen in a box; 72 dozen in a case with $\frac{5}{8} \times 5$ flat head screws to match.

Weight per box, $1\frac{1}{2}$ pounds; per case, 48 pounds.

No. 5210.....per dozen

No. 1265 Wrought Steel Heavy Handles



Made of heavy cold rolled wrought steel. Suitable for use on doors of garages, industrial buildings, etc.

Reinforced at points of greatest strain, and designed so that the full strength of the metal is obtained.

Packed six in a box with screws.

Length, $10\frac{3}{4}$ inches; width, $1\frac{1}{4}$ inches. Width of ends, $2\frac{1}{2}$ inches.

No.	Description	Per Dozen
1265J	Japanned.....	.....
1265J1	Dead Black.....	.....
1265K	Stanley Zinc.....	.....
1265KJ1	Zinc, Dead Black.....	.....

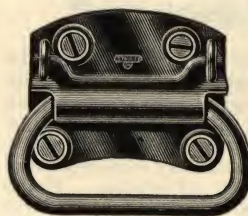
No. 1215 Stanley Wrought Steel Flush Trap Door Rings



Four screw holes in each size, prices include screws.

No.	1	2	3
No. 1215J, Japanned, per dozen			
Size Plate.....inches	$3 \times 3\frac{1}{2}$	$3\frac{1}{2} \times 3\frac{3}{4}$	$3\frac{3}{4} \times 4\frac{1}{4}$
Size Wire.....inches	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{25}{64}$
No. in a Box.....	6	6	3
Weight per Dozen.....pounds	$5\frac{1}{2}$	$7\frac{1}{2}$	10

No. 1205 Stanley Wrought Steel Heavy Chest Handles



The vertical corrugations reinforce the stop, giving handles strong lifting power.

Japanned. With screws.

The 2-inch size is packed 1 dozen pairs in a box; sizes $2\frac{3}{4}$ to $3\frac{1}{2}$, $\frac{1}{2}$ dozen pairs; other sizes, $\frac{1}{4}$ dozen pairs.

Size No.	Per Doz. Pairs	Size Handle In.	Size Plate In.	Size Wire In.	No. Screw Holes	Size of Screws	Wt., Lb. per Doz. Pairs
2	2	$2\frac{1}{8} \times 1\frac{1}{2}$	$\frac{7}{32}$	3	$\frac{5}{8} \times 5$	3
$2\frac{3}{4}$	$2\frac{3}{4}$	$2\frac{1}{16} \times 2$	$\frac{1}{4}$	3	$\frac{3}{4} \times 6$	5
$3\frac{1}{4}$	$3\frac{3}{8}$	$3\frac{3}{8} \times 2\frac{3}{4}$	$\frac{5}{16}$	4	$\frac{3}{4} \times 8$	9
$3\frac{1}{2}$	$3\frac{5}{8}$	$3\frac{5}{8} \times 2\frac{15}{16}$	$\frac{11}{32}$	4	$\frac{7}{8} \times 10$	10
4	$4\frac{1}{8}$	$4\frac{1}{8} \times 3$	$\frac{3}{8}$	4	$\frac{7}{8} \times 10$	15
$4\frac{3}{4}$	$4\frac{1}{2}$	$4\frac{7}{8} \times 4\frac{3}{16}$	$\frac{7}{16}$	5	1×12	25

No. 1207 Stanley Wrought Steel Chest Handles



For chests or boxes having a surface for applying only a narrow plate.

Corrugations reinforce the stop. A narrow plate with a large bail allows for a firm grip.

Gage metal, .072. Plate size, $3\frac{7}{16} \times 1\frac{3}{4}$ inches; width of bail inside, $3\frac{3}{8}$ inches; wire, $\frac{5}{16}$ inch. Size of wood screws, $\frac{7}{8} \times 8$ inches.

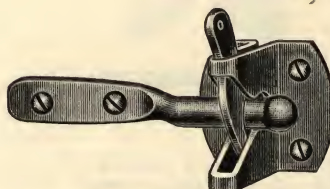
Packed 3 pairs in a box with screws.

Packed 6 dozen pairs in a case.

Approximate case weight, 54 pounds.

No. 1207J, Japanned Finish.

No. 1261 Stanley Wrought Steel Gravity Type Gate Latches



For latching single acting gates. Also recommended for cellar and hatchway doors. Made of extra heavy wrought steel; gage, .125.

Gate and post must be flush. Self-latching, released by raising the trip.

Base, $1\frac{3}{4} \times 2$ inches; length of latch bar, $4\frac{1}{2}$ inches; projection, 2 inches.

Size of wood screws: for base, 1×8 ; for latch bar, $1\frac{1}{4} \times 10$.

Packed 6 sets in a box with wood screws.

Average weight per dozen, 6 pounds.

No. Sc1261K, Zinc Plated.....per dozen

No. 1267 Stanley Wrought Steel Gate Latches



For latching gates swinging in, out or both ways. Mounted on top of gate.

Made of extra heavy wrought steel with brass spring and brass rivet.

Gage metal, .125. Overall length, 6 inches; length of base, $3\frac{3}{4}$ inches; width of base, $1\frac{1}{8}$ inches. Furnished with $1\frac{1}{4}$ x10-inch round head wood screws.

Packed 6 in a box with screws.

Approximate net weight per dozen, 10 pounds.

No. 1263 Stanley Extra Heavy Wrought Steel Latches



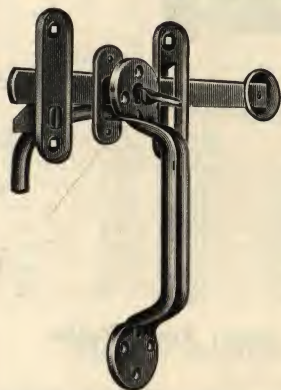
Made of heavy cold rolled steel, for use on garages, mills and warehouses. Handles are of large size and mounted on large escutcheon plates which distribute the screws over a wide area. With combination holes for either bolts or screws.

Length of handle, $10\frac{3}{4}$ inches; length of bar, $6\frac{1}{4}$ inches; length of escutcheon plate, $14\frac{1}{2}$ inches; width, $2\frac{3}{4}$ inches.

Packed one set in a box with wood-screws. Weight per dozen, 47 pounds.

No.....	1263J	1263J1	1263K	1263KJ1
Per Dozen	.....	.....	.....	.....
Finish....	Japanned	Dead Black	Zinc	Zinc Dead Black

No. 1252 Stanley Wrought Steel Extra Heavy Latches



Designed for industrial buildings and garages.

Adapted for use on doors from $1\frac{1}{2}$ to $2\frac{1}{2}$ inches in thickness.

Has combination holes permitting the use of either bolts or screws.

Length of handle, $10\frac{3}{4}$ inches; length of bar, $6\frac{1}{4}$ inches.

Packed 1 in a box with $1\frac{1}{2}$ x12-inch screws for handle, catch and guide; $1\frac{3}{4}$ x12-inch screws for bar and 1x10-inch for small plate which fits over thumb latch on outside of door.

Packed 3 dozen in a case;

weight per case, 130 pounds.

Available in the following finishes:

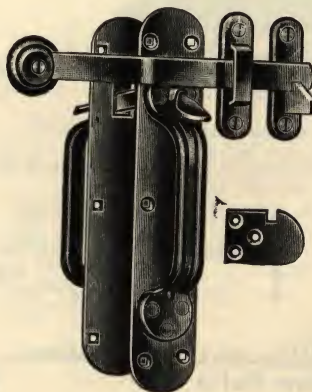
No. 1252J, japanned.

No. 1252J1, dead black.

No. 1252K, Zinc plated.

No. 1252KJ1, Zinc plated, dead black.

No. 1264 Stanley Wrought Steel Extra Heavy Duplex Latches



Cold rolled steel; two handles and thumb pieces, adjustable on doors from $1\frac{3}{4}$ to $2\frac{1}{4}$ inches thick, can be furnished for 3-inch doors.

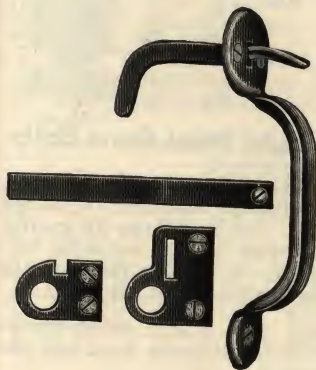
Combination holes in escutcheon plates permit secure bolting together using $\frac{1}{4}$ -inch carriage bolts.

Length bar, 12 inches; escutcheon plate, $14\frac{1}{2}$ inches; width, $2\frac{3}{4}$ inches; handle, $10\frac{3}{4}$ inches long, $1\frac{1}{4}$ inches wide.

Extra flush catch or mortise strike included. One set in box.

No.....	1264
J, Japanned, with Screws.....	per doz.
J1, Dead Black, with Screws.....	per doz.
KJ1, Zinc, Dead Black, with Screws.....	per doz.

No. 1260 Stanley Thumb-Latches



For doors of residences, garages, barns, etc.

Wrought steel.

The latch bar is furnished with a special flanged bushing, which prevents the bar from binding regardless of how tightly the screw is driven.

Reverse bevel box strike is available, which permits application of the handle on the outside or room side of the door. Has padlock attachment.

Packed 1 set in a box with wood screws.

Size No.....	2	3	4
No. 1260J, Japanned.....	per dozen	.....	.....
Length of Handle.....	6 $\frac{3}{4}$	7 $\frac{1}{2}$	8 $\frac{7}{8}$
Door Thickness.....	$5\frac{7}{8}$ - $1\frac{3}{4}$	$3\frac{1}{4}$ - $1\frac{7}{8}$	$1\frac{1}{4}$ - $2\frac{5}{8}$
Length of Grip.....	4	4	5
Length of Latch Bar.....	4 $\frac{1}{4}$	5 $\frac{1}{2}$	5 $\frac{1}{2}$
Approx. Weight per Dozen..	pounds 6	9	14 $\frac{1}{2}$

No. 1289 Stanley Wrought Steel Mortise Thumb Latches

Size No. 2



For use on garages and industrial buildings where doors are not rabbeted.

All parts except latch bolt of wrought steel. Has $\frac{3}{4}$ -inch throw to take care of shrinkage between door and jamb. Grips of handles $5\frac{1}{8}$ inches long; overall length $9\frac{3}{8}$ inches. Case $3\frac{1}{4}$ x2 $\frac{1}{8}$ x $\frac{1}{8}$ inches. Flat front $5\frac{1}{8}$ x1 $\frac{1}{4}$ inches. Latch is reversible. Backset $2\frac{1}{4}$ inches. Strike $1\frac{1}{4}$ inches lip to center. Latch bolt can be operated by thumb piece from either side.

Furnished regularly adjustable for doors from $1\frac{5}{8}$ to $2\frac{1}{4}$ inches thick; can also be furnished when desired for doors up to 3 inches thick; specify when ordering.

Packed 1 set complete in box with $1\frac{1}{4}$ x No. 12 wood screws for handles and $1\frac{1}{4}$ x No. 9 wood screws for latch; 24 sets in case.

Weight, 250 pounds per 100 sets; weight case 68 pounds.

No. 1289J, Bright Japanned.....per set

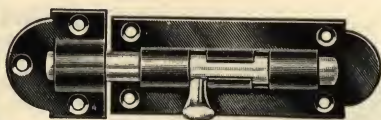
No. Sc1078 Stanley Wrought Steel Light Barrel Bolts



Japanned with zinc plated bolt and knob.
Packed 1 dozen in a box with wood screws.

Length.....in.	2	2½	3	4	5	6
Width Plate.....in.	1	1	1½	1½	1½	1½
Screw Holes in Plate.....	6	6	7	7	7	9
Size Wood Screws....	5/8x4	5/8x4	3/4x5	3/4x5	3/4x7	3/4x7
Weight per Dozen.lb.	1½	1½	2½	3½	5½	6½

No. 1084 Wrought Steel Heavy Barrel Bolts

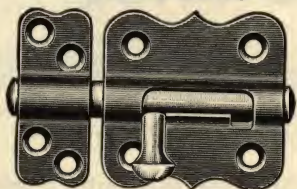


Japanned plate with brass plated bolt.

Sizes 5-inch and smaller packed 12 in a box; 6-inch, 6 in a box; 8-inch, 3 in a box, all without screws.

Size In.	Per Doz.	No. of Screw Holes	Size of Screw	Wt. Lbs. per Doz.	Size In.	Per Doz.	No. of Screw Holes	Size of Screw	Wt. Lbs. per Doz.
3	7	7	3/4x6	33/8	6	9	9	7/8x7	7½
4	7	7	3/4x6	4½	8	9	1	x8	15
5	7	7	1/8x7	6					

No. 1076 Stanley Wrought Steel Cellar Window Bolts



Japanned plate; zinc-plated bolt.
Packed 12 in a box, without screws.

Size.....in.	2	2½	3	3½
Screw Holes in Plate.....	6	6	8	8
Size Screws.....	3/4x5	3/4x6	3/4x7	3/4x7
Dozen in a Case.....	25	25	25	10
Weight per Dozen.....pounds	1¼	2	3¼	4½
Average Case Weight.....pounds	31	46	67	43

No. 1096 Stanley Wrought Steel Case Bolts



All with wood screws.
Furnished with strikes as illustrated.
Furnished japanned.

Size.....inches	3	4	6
No. 1096J, Japanned.....per dozen	1	½	½
No. of Dozen in a Box.....	10	10	10
No. of Dozen in a Case.....	10	10	10
Weight, Pounds:			
Per Dozen.....	6½	12½	14½
Per Average Case.....	74	138	152

No. 1102 Stanley Wrought Steel Square Neck Bolts



Furnished with a heavy steel spring.
Japanned plates and zinc plated bolts.
Furnished without screws.
Packed six in a box.

Size.....inches	4	6
No. 1102.....per dozen	4	6
No. of Screw Holes.....	4	6
Size of Screws.....	1x7	1x8
Dozen in a Case.....	25	15
Weight per Dozen.....pounds	5	10½
Weight per Case.....pounds	132	175

No. 1088 Stanley Wrought Steel Square Spring Bolts



Has heavy steel springs. Japanned plates; zinc-plated bolts. Furnished with strikes. Packed without screws.

Size In.	Per Dozen	No. of Screw Holes	Size of Screw	Size Bolt Inches	No. in Box	Weight, Pounds per Doz.
3	8	8	5/8x5	3/6	12	2½
4	8	8	3/4x6	3/8	12	5
5	10	10	3/4x7	3/8	12	6
6	10	10	1 x8	1/2	12	11
8	12	12	1 x9	5/8	6	17½
10	12	12	1 x9	3/4	3	31

No. 1057 Wrought Steel Foot Bolts

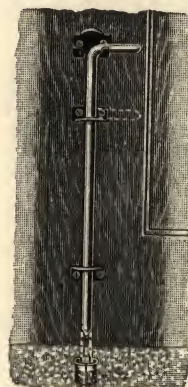


Bright japanned finish. Positive action.
Operated by pressure of foot on cap and released by pressure on trip. Bolt need not be thrown to extreme position before it will hold.

Furnished with strike plate for wood floors.
Strike No. 1138 for concrete floors furnished with 10-inch size. With wood screws.

Size Bolt.....in.	6	8	10
Per Doz.....	5	7	9
Length Plate.....in.	2	2¾	3¾
Width Plate.....in.	2½	1¾	2¾
Diam. Bolt.....in.	6	3	1
No. in Box.....	5	3	1
Doz. in Case.....	5	3	1
Ship. Wt.....lbs.	46	51	34

No. 1010 Stanley Wrought Steel Cane Bolts



For locking doors in garages and industrial buildings. Also used for holding doors open. The bolt drops by gravity when the handle is lifted out of the bolt rest. The lip at the top prevents the bolt from slipping out of the guide.

Supplied with 1¼x12 wood screws and two strikes, one for wood and one for concrete.

Packed 2 in a box.

Length.....inches	12	18	24
No. 1010K, Zinc Plated with Jap. Guides and Bolt Rest.....per dozen	1½	19½	19½
Size Round Bolt.inches	16	28	34
Weight per Doz.pounds	16	28	34

Stanley Wrought Steel Chain Bolts



No. 1055

Can be used on doors opening in by reversing the bolt.

Equipped with a strong music wire spring which throws the bolt automatically when chain is released. Chain is 24 inches long.

Furnished with one angle strike and one surface strike.

Size 2-inch, 1 dozen in a box; 3 to 6-inch, 6 in a box; 8-inch, 4 in a box; 10-inch, 1 in a box; all with screws.



No. 1055
Design of Case
for 10-In. Size

No. 355F Planished and Plated Dull Brass Finish

Lgth. Bolt Case In. Inches	Throw Diam. of Bolt In.	Bolt In.	STRIKE, INCHES		WOOD SCREWS No.	Approx. Doz. Case per Wt. Case Lb.
			Angle	Surface		
2 1 1/2 x 1 1/16	3/8	5/16	1 1/2 x 1 1/8 x 1/8	1 1/4 x 1 1/2 x 1 1/2	4 5/8 x 4	.. ..
3 2 1/2 x 1 1/16	13/32	1/2	3/4 x 1 1/2 x 1/4	1 1/16 x 1 1/2 x 5/8	4 3/4 x 6	.. ..
4 3 3/8 x 1 1/2	9/16	5/8	7/8 x 1 5/8 x 3/16	1 1/8 x 1 3/4 x 1 3/16	4 3/4 x 7	.. ..
5 4 1/8 x 1 1/16	9/16	11/16	1 1/16 x 1 1/2 x 3/8	1 1/8 x 1 3/4 x 1 3/16	4 3/4 x 7	.. ..
6 4 1/2 x 2	23/32	1 1/16	1 1/8 x 1 1/2 x 1/2	2 x 1 x 1 1/16	4 1 x 8	.. ..

*No. 1055J, Japanned

2 1 1/2 x 1 1/16	3/8	5/16	1 1/2 x 1 1/8 x 1/8	1 1/4 x 1 1/2 x 1 1/2	4 5/8 x 4	.. 24
3 2 1/2 x 1 1/16	13/32	1/2	3/4 x 1 1/2 x 1/4	1 1/16 x 1 1/2 x 5/8	4 3/4 x 6	.. 43
4 3 3/8 x 1 1/2	9/16	5/8	7/8 x 1 5/8 x 3/16	1 1/8 x 1 3/4 x 1 3/16	4 3/4 x 7	.. 36
5 4 1/8 x 1 1/16	9/16	11/16	1 1/16 x 1 1/2 x 3/8	1 1/8 x 1 3/4 x 1 3/16	4 3/4 x 7	.. 40
6 4 1/2 x 2	23/32	1 1/16	1 1/8 x 1 1/2 x 1/2	2 x 1 x 1 1/16	4 1 x 8	.. 64
8 7 x 2 3/4	25/32	1 3/8	1 1/2 x 2 3/4 x 1 1/2	2 1/2 x 1 1/2 x 1 1/8	4 1 1/4 x 10	.. 46
10 9 x 3 3/8	27/32	7/8	1 1/2 x 2 3/4 x 1 1/2	2 3/8 x 1 1/4 x 1 1/4	6 1 1/4 x 12	.. 34

*Furnished with zinc plated bolt.

Stanley Wrought Steel Foot Bolts Spring Action



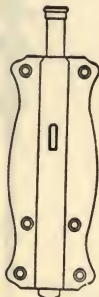
No. 1056

Operated by pressure of the foot on the cap and released by pressure on the trip.

When No. 1056 is released, the bolt is retracted by a heavy music wire spring.

Furnished with No. 1138 concrete strike. Zinc plated strike regularly furnished with 10-inch size; available with 6 and 8-inch size on request.

Size 2-inch 12 in a box; 3 to 6-inch 6 in a box; 8-inch 4 in a box; 10-inch 1 in a box; all with screws.



No. 1056
Design of Case
for 10-In.
Size

No. 356F, Planished and Plated Dull Brass Finish

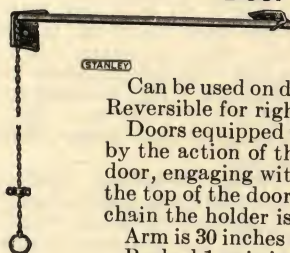
Lgth. Bolt Case In. Inches	Throw Diam. of Bolt In.	Bolt In.	Strike Inches	WOOD SCREWS No.	Approx. Doz. Case per Wt. Case Lb.
2 1 1/2 x 1 1/16	13/32	3/8	1 1/2 x 5/8	4 5/8 x 4	.. ..
3 2 1/2 x 1 1/16	1/2	1/2	1 3/4 x 1 1/2	4 3/4 x 6	.. ..
4 3 3/8 x 1 1/2	39/64	1	2 1/4 x 1 1/8	4 3/4 x 7	.. ..
5 4 1/2 x 1 1/16	39/64	1	2 1/4 x 1 1/8	4 3/4 x 7	.. ..
6 5 x 2	23/32	1 3/32	2 1/8 x 1 1/4	4 1 x 8	.. ..

*No. 1056J, Japanned

2 1 1/2 x 1 1/16	13/32	3/8	1 1/2 x 5/8	4 5/8 x 4	10 12
3 2 1/2 x 1 1/16	1/2	1/2	1 3/4 x 1 1/2	4 3/4 x 6	10 27
4 3 3/8 x 1 1/2	39/64	1	2 1/4 x 1 1/8	4 3/4 x 7	5 25
5 4 1/2 x 1 1/16	39/64	1	2 1/4 x 1 1/8	4 3/4 x 7	5 30
6 5 x 2	23/32	1 3/32	2 1/8 x 1 1/4	4 1 x 8	5 48
8 7 x 2 3/4	25/32	1 3/8	2 1/2 x 1 1/2	4 1 1/4 x 10	2 35
10 9 x 3 3/8	27/32	1 3/4	2 3/8 x 2	6 1 1/4 x 12	1 33

*Furnished with zinc plated bolt.

No. 1774 Stanley Wrought Steel Garage Door Holders



Can be used on doors with square or curved tops. Reversible for right or left hand doors.

Doors equipped with these holders are held open by the action of the bar, which is attached to the door, engaging with the bumper plate attached to the top of the door casing. By a slight pull on the chain the holder is released.

Arm is 30 inches long; chain is 38 inches long.

Packed 1 pair in a package with wood screws; 6 pairs in a case weighing 58 pounds.

No. 1774J, Bright Japanned	per pair	....
No. 1774J1, Dead Black	per pair	....
No. 1774K, Zinc Plated	per pair	....
No. 1774KJ1, Dead Black Jap. over Zinc	per pair	....

No. 2640 Stanley Wrought Steel Garage Door Braces



Designed for use on garage doors to prevent sagging, or plumb doors already sagged. Made of heavy steel rod, 1/2 inch in diameter, with malleable iron turnbuckle.

Applied on the inside of the door, one end being fastened to the hinge stile and the other diagonally across the door to the lower outside corner.

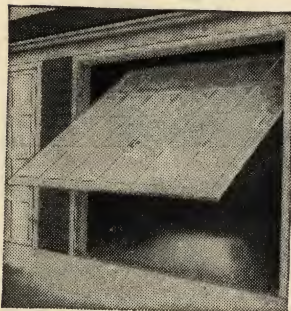
Packed 1 dozen in a carton with wood screws.

Length	feet	6	8
No. 2640J, Japanned	per doz.	....	....
No. 2640K, Zinc Plated	per doz.	....	....
Weight per Dozen	pounds	19	23

Because of the many sizes and styles of BUILDERS' AND INTERIOR TRIM HARDWARE, it has been necessary for us to limit the lines as shown.

We are, however, in a position to handle your inquiries in an intelligent and economical manner and welcome an opportunity to serve you.

No. 2732 Stanley Swing-Up Garage Door Hardware



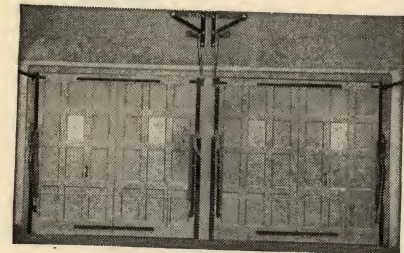
Width up to 8 feet with angle door braces up to 16 feet with adjustable door braces. Height furnished in two sizes 6 feet 6 inches to 7 feet and 7 feet to 8 feet. Maximum door weight, 250 pounds.

When ordering, specify door width, height and weight.

Operated by heavy heat-treated and oil-tempered coil springs, one on each side of door. Angle iron lifting arms, actuated by springs, propel door upward. Springs are fitted with an adjusting bolt at bottom for proper balancing of door.

Housings are made of heavy wrought steel. Track is of 13-gage wrought steel.

Steel plates attached to housings and hanger brackets offer protection



against weather and also act as side stops.

Adapted for doors up to 1 3/4 inches in thickness which are cleated together with two angle iron braces.

Furnished with a rim cylinder locking bolt with two keys. Japanned finish, with spindles, adjusting bolts and handle of locking bolt zinc-plated.

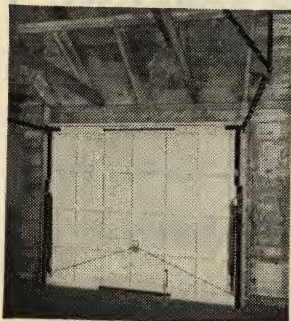
Furnished for 7 to 8-foot height if size is not stated.

One complete set in a crate with instructions for installing. Weight complete, 116 pounds.

Prices and further information furnished upon request.

No. 2731 1/2 Stanley Econ-O-Matic Swing-Up Garage Door Hardware

For doors up to 8 feet wide and 6 1/2 to 7 feet high, and weighing not over 150 pounds.



Inside View

weights of doors up to 150 pounds.

Can be used for remodeling with old doors, or for new construction.

Operated by heat treated and oil-tempered coil springs, one on each side of the door.

The springs are fitted with an adjusting bolt at the bottom for proper balancing of the door.

The housings are made of heavy wrought steel.

A series of holes permits adjustment for various

The track is made of 13-gage wrought steel, so designed as to prevent the rollers from jumping out. Steel plates attached to housings and hanger brackets offer protection against the weather and also act as side stops.

The lock is arranged with a handle in the center of the door, with rods extending to latch bolts which engage each jamb plate at each side of the door.

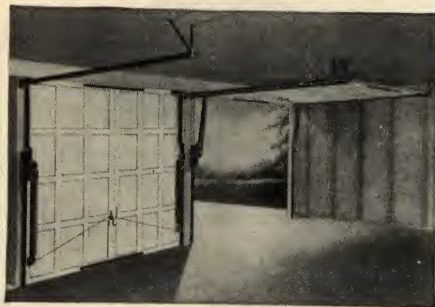
Only 1 5/8 inches of headroom is required above the opening, with 2 1/2 inches of minimum side room on each side.

Packed one complete set in a corrugated carton.

Shipping weight, 71 pounds.

No. 2731 1/2 Completeper set

Richards-Wilcox Garage Door Hardware



No. 999-1. For lightweight garage door, weight up to 200 lb.; single-piece, or two doors fastened together to form a single door. Openings not over 8 feet wide or 8 feet high. Ship. wt. per set, 95 lb.per set **\$33.00**



No. 999-2. For 2-car lightweight garage doors, weight to 400 lb.; single piece door only. Openings not over 16 feet wide nor over 8 feet high. Adjustable take-up truss prevents sagging door. Double springs. Shipping weight, 115 pounds.per set **\$60.50**

No. 517 R-W Garage Cremone Bolts

PATENTED

Locks doors at both top and bottom with one movement of the lever.

So constructed that when bolted or unbolted the ends of connecting rods, where attached to the lever handle, are off center so that bolt maintains its position by gravity and cannot be changed except by moving the lever handle.

Connecting rods are made in sections so that entire bolt can be packed in a convenient size box.

Made in one size for doors up to 9 feet high. Extra sections 18 inches long can be furnished for higher doors.

The patented bottom keeper is made with a lug against which the outside surface of the door strikes so that the bolt will always be in line with the opening in the keeper when the door is pushed tightly shut. Adjustable for different thicknesses of doors.

Extra flat bottom keeper is furnished so that doors may be locked in open position.

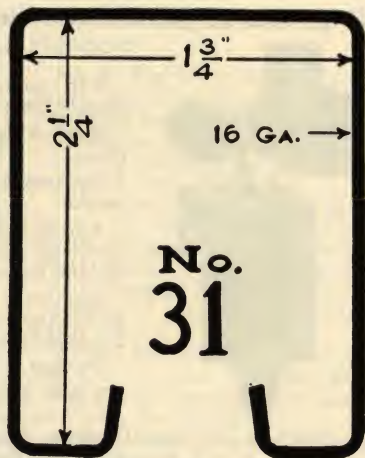
In ordering, state: Height of door; whether sliding or swing door; if swing door, does same overlap jamb or set in flush; whether doors swing in or out.

Packed regularly with screws and top and bottom keeper in metal-edged box 21 inches long. Weight: Bolt, 10 pounds; extra section, 1 pound.

Price, No. 517 Bolt, Adjustable Up to 9 Feet.....each **\$9.70**

Price, Extra Section, 18 Inches Longeach **.99**





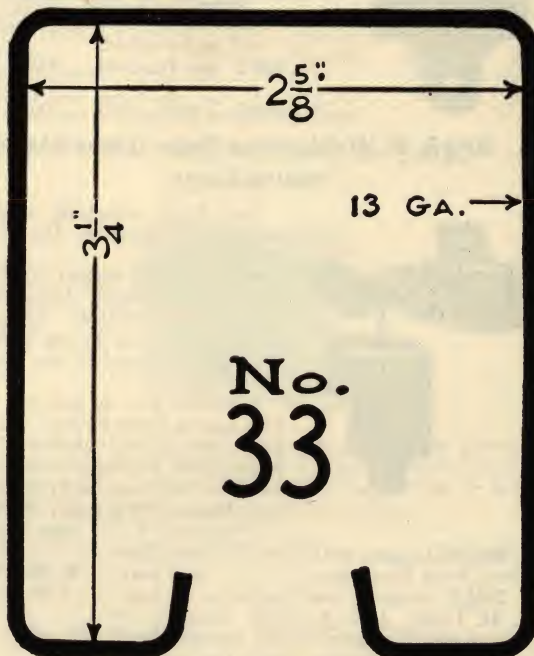
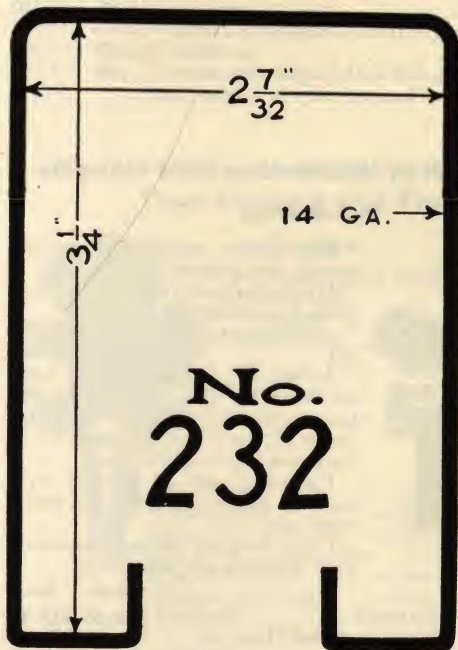
R-W Lock Joint Trolley Tracks and Brackets

The lock feature locks the joints together permanently; locks them so tightly that hangers will always operate smoothly and trouble free.

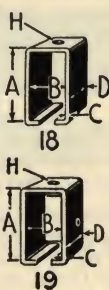
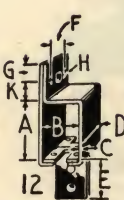
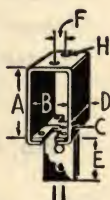
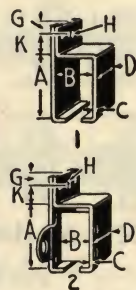
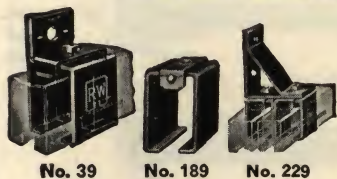
Prevents tracks from creeping and binds them tightly against the bottom of the bracket making a smooth, tight joint for hanger run-way.

Illustrations are full size cross-sections of lock joint trolley tracks.

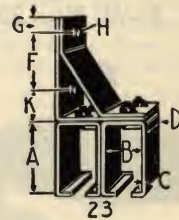
Track No.....	31	232	33
Per 100 Feet.....	\$42.00	88.00	110.00
Wt. per Foot..lbs.	1.6	2 ³ / ₄	4



Lock Joint Brackets



Trolley Track Brackets



Dimensions of No. 39 are the same as No. 1, No. 229 same as No. 22 and No. 189 same as No. 18.

Bracket No.....	1	2	11	12	18	19	22	23	39	189	229
For No. 31 Track.....each	\$.39	\$.44	\$1.70	\$1.80	\$.50	\$.61	\$1.20	\$1.45	\$.50	\$.66	\$2.05
For No. 232 Track.....each	.94	.99	2.55	2.55	1.05	1.15	2.40	2.65	1.05	1.40	3.65
For No. 33 Track.....each	1.10	1.20	3.15	3.15	1.40	1.55	2.80	3.05	1.25	1.60	4.35

Dimensions, Inches											
For No. 31 Track											
Bracket No.	A	B	C	D	E	F	G	H	K		
1	3	1 ¹⁵ / ₁₆	1 ¹ / ₈	2	...	...	1 ¹³ / ₁₆	9 ¹ / ₁₆	1 ¹ / ₂		
2	3	1 ¹⁵ / ₁₆	1 ¹ / ₈	2	...	...	1 ¹³ / ₁₆	9 ¹ / ₁₆	1 ¹ / ₂		
11	3 ¹ / ₂	1 ¹⁵ / ₁₆	1 ¹ / ₈	4	3 ¹ / ₄	2 ¹ / ₂	...	9 ¹ / ₁₆	...		
12	3	1 ¹⁵ / ₁₆	1 ¹ / ₈	4	3 ¹ / ₄	2 ³ / ₄	1 ¹⁵ / ₁₆	9 ¹ / ₁₆	8 ¹ / ₈		
18	3 ¹ / ₂	1 ¹⁵ / ₁₆	3 ¹ / ₁₆	2 ¹ / ₂	...	...	...	9 ¹ / ₁₆	...		
19	3 ¹ / ₂	1 ¹⁵ / ₁₆	3 ¹ / ₁₆	2 ¹ / ₂	...	...	...	9 ¹ / ₁₆	...		
22	3	1 ¹⁵ / ₁₆	3 ¹ / ₁₆	2	...	2 ²³ / ₃₂	3 ¹ / ₄	1 ¹³ / ₁₆	1 ¹ / ₂		
23	3	1 ¹⁵ / ₁₆	3 ¹ / ₁₆	2	...	2 ²³ / ₃₂	3 ¹ / ₄	1 ¹³ / ₁₆	1 ¹ / ₂		
For No. 232 Track											
Bracket No.	A	B	C	D	E	F	G	H	K		
41 ¹ / ₁₆	2 ¹⁵ / ₃₂	3 ¹ / ₁₆	2 ³ / ₄	...	...	7 ¹ / ₈	1 ¹¹ / ₁₆	5 ¹ / ₈			
41 ¹ / ₁₆	2 ¹⁵ / ₃₂	3 ¹ / ₁₆	2 ³ / ₄	...	...	7 ¹ / ₈	1 ¹¹ / ₁₆	5 ¹ / ₈			
41 ¹ / ₁₆	2 ¹⁵ / ₃₂	3 ¹ / ₁₆	5	3 ³ / ₁₆	3	...	...	...
41 ¹ / ₁₆	2 ¹⁵ / ₃₂	3 ¹ / ₁₆	4	3 ³ / ₁₆	2 ³ / ₄	1 ¹⁵ / ₁₆	9 ¹ / ₁₆	5 ¹ / ₈			
41 ¹ / ₁₆	2 ¹⁵ / ₃₂	3 ¹ / ₁₆	3	...	...	...	1 ¹¹ / ₁₆	...			
41 ¹ / ₁₆	2 ¹⁵ / ₃₂	3 ¹ / ₁₆	3	...	...	...	1 ¹¹ / ₁₆	...			
41 ¹ / ₁₆	2 ¹⁵ / ₃₂	3 ¹ / ₁₆	2 ³ / ₄	...	3 ¹ / ₂	1	1 ¹³ / ₁₆	1 ¹ / ₂			
41 ¹ / ₁₆	2 ¹⁵ / ₃₂	3 ¹ / ₁₆	2 ³ / ₄	...	3 ¹ / ₂	1	1 ¹³ / ₁₆	1 ¹ / ₂			
For No. 33 Track											
Bracket No.	A	B	C	D	E	F	G	H	K		
43 ¹ / ₁₆	2 ²³ / ₃₂	3 ¹ / ₁₆	3	...	...	3 ¹ / ₄	1 ¹³ / ₁₆	1 ¹ / ₂			
43 ¹ / ₁₆	2 ²³ / ₃₂	3 ¹ / ₁₆	3	...	...	3 ¹ / ₄	1 ¹³ / ₁₆	1 ¹ / ₂			
41 ¹ / ₁₆	2 ²³ / ₃₂	3 ¹ / ₁₆	5	3 ³ / ₁₆	3	...	...	...
41 ¹ / ₁₆	2 ²³ / ₃₂	3 ¹ / ₁₆	5	3 ³ / ₁₆	2 ³ / ₄	1 ¹⁵ / ₁₆	9 ¹ / ₁₆	1 ¹ / ₂			
41 ¹ / ₁₆	2 ²³ / ₃₂	3 ¹ / ₁₆	4 ¹ / ₂	...	...	...	1 ¹³ / ₁₆	...			
41 ¹ / ₁₆	2 ²³ / ₃₂	3 ¹ / ₁₆	4 ¹ / ₂	...	...	...	1 ¹³ / ₁₆	...			
43 ¹ / ₁₆	2 ²³ / ₃₂	3 ¹ / ₁₆	3	...	3 ¹ / ₂	1	1 ¹³ / ₁₆	1 ¹ / ₂			
43 ¹ / ₁₆	2 ²³ / ₃₂	3 ¹ / ₁₆	3	...	3 ¹ / ₂	1	1 ¹³ / ₁₆	1 ¹ / ₂			

Information concerning triple runs of trolley tracks, and brackets other than those shown available upon request.

No. 020-2 Richards-Wilcox Blue Streak Trolley Track Door Hangers

Oilite Bearings

For Doors 1¾ to 2½-Inch Thick



For doors to 300-lb. weight. Features permanently self-lubricating oilite bronze bearings, impregnated with high grade non-gumming oil. Resists corrosion. Oil film produced by bearing also protects the shaft.

Top of door to bottom, track:

Minimum, 1⅞ inches.

Maximum, 2⅞ inches.

Bottom of track to center of hole in bracket, 3½ inches.

Aprons must be let into doors of maximum thickness.

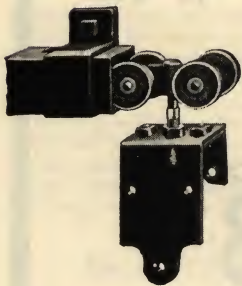
Specify if door over 2-inch thick so proper length stove bolt will be furnished.

No. 020-2, less Bracket....each \$4.80

No. 020-2, Trucks Only...each 4.30

No. 20½B R-W Stayrite Barn Door Hangers

Ball Bearing



For doors weighing approximately 300 pounds, 1¾ to 2½ inches thick.

Wheels, drop-forged steel, 2⅞ inches in diameter. Adjustment, lateral or vertical. Apron, 6 inches long, 3½ inches wide, ⅞ inch thick, punched for ⅝-inch bolts.

Packed 1 pair of hangers with carriage and stove bolts; one lock joint and 2 end brackets with ⅞x2½-inch lag screws, and two patented track stops with ⅞x1½-inch lag screws for end brackets.

	Gray	*Galv.
No. 20½B Hangers with Two End and One Lock Joint Brackets.....per pair	\$8.60	\$10.05
No. 20½B Hangers Less Brackets.....per pair	7.30	8.25
No. 31 Track, 4, 6, 8, 10-Ft. Lengths (8 Pieces per Bundle).....per foot	.42	.52
No. 1x31 Extra Bracket, with Lag Screws.....each	.46	.80

*Exposed parts of hangers only are galvanized.

R-W No. 25 Warehouse Door Hangers

Roller Bearing



For doors weighing approximately 300 pounds.

Wheels, steel, 2⅞ inches in diameter. Aprons, 7½ inches long, 4 inches wide, ⅞ inch thick, punched for ⅝-inch bolts. Adjustment, lateral and vertical.

No. 1 for doors 1¾ to 2 inches; No. 2 for doors 2¼ to 2¾ inches.

Packed in box, one pair hangers with carriage and stove bolts.

	Gray	*Galv.
No. 25—1 or 2 Hangers.....per pair	\$4.90	\$6.40
No. 31 Track, 4, 6, 8, 10-ft. Lengths (8 Pieces per Bundle).....per foot	.42	.52
Extra, No. 1x31 Brackets with Lag Screws.....each	.46	.79

*Exposed parts of hangers only are galvanized.

R-W No. 27½B Warehouse Door Hangers

Ball Bearing



For doors weighing approximately 300 pounds.

Steel wheels, 2⅞ inches diameter.

Adjustment, lateral and vertical.

Apron, 7½ inches long, 4 inches wide, ⅞ inch thick, punched for ⅝-inch bolts.

Size No. 1 is for doors 1¾ to 2¼ inches thick; No. 2 for doors 2¼ to 2¾ inches thick.

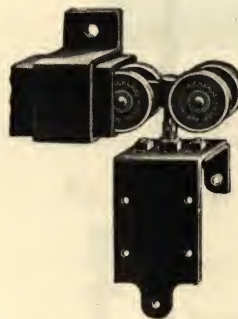
Packed in box, one pair of hangers with carriage and stove bolts.

	Black	*Galv.
No. 27½B—1 or 2, less Brackets...per pair	\$10.20	\$11.65
No. 27½B—1 or 2, Knuckle-Joint Hangers, less Brackets.....per pair	14.65	16.10
No. 31 Track, 4, 6, 8, 10-ft. Lengths (8 Pieces per Bundle).....per foot	.42	.52
No. 1x31 Extra Bracket with Lag Screws.....each	.46	.79

*Exposed part of hanger only is galvanized.

No. 29½B R-W Warehouse Door Hangers

Ball-Bearing



For doors weighing approximately 600 pounds.

Drop-forged steel wheels, 3 inches in diameter.

Adjustment, lateral and vertical.

Apron, 7½ inches long, 4 inches wide, ⅞ inch thick, punched for ⅝-inch bolts. Size No. 1 for doors 1¾ to 2 inches thick; No. 2 for doors 2¼ to 2¾ inches.

Packed 1 pair of hangers with carriage and stove bolts in a metal edge box.

Price does not include brackets with hangers nor lag screws.

	*Galv.	Gray
No. 29½B-1 or 2 Hangers.....per pair	\$14.85	\$12.65
No. 29½B-1 or 2 Knuckle-Joint Hangers.....per pair	20.75	18.60
No. 232 Track, 4, 6, 8, 10 and 12-Ft. Lengths (4 Pieces per Bundle).....per foot	1.00	.88
No. 1x232 Center Brackets.....each	†	.94
No. 2x232 End Brackets.....each	†	.99

*Exposed parts of hangers only are galvanized

†For galvanized brackets, add 15 cents per pound.

No. 435 R-W Hanger and Bracket Sets

For No. 31 Track



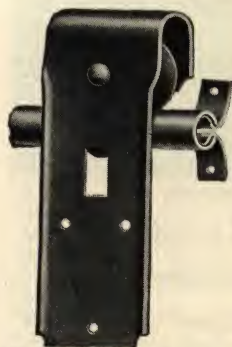
Contains one No. 435 Slidetite Hanger, one each of end, center and intermediate track brackets.

A two, three, or one-track 4-door outfit requires one set, but two-track, 4, 5 and 6-door outfits use two sets.

Weight, 13 pounds.

No. 435.....per set \$9.10

No. 462 R-W Round Track Barn Door Hangers



No. 1. For doors $1\frac{3}{4}$ to 2 inches thick, weighing 150 pounds. Uses No. 242-A track.

Distance top of door to center of track, $\frac{3}{4}$ inches; clearance above center of track, $3\frac{1}{4}$ inches.

Steel wheels, $2\frac{1}{4}$ inches in diameter. Roller bearings. Limit guide. Hanger: length, $9\frac{1}{2}$ inches; width, 3 inches; thickness, $\frac{1}{8}$ inch. Gray enamel finish.

Packed 1 pair with carriage bolts.

Weight per pair, 5 pounds.

No. 1...... per pair \$3.20

No. 2. For doors $1\frac{3}{4}$ to $2\frac{1}{2}$ inches thick, weighing 250 pounds. Uses No. 242-B track.

Distance top of door to center of track, 1 inch; clearance above center of track, 4 inches.

Steel wheels, $2\frac{1}{2}$ in. in diam. Roller bearings. Limit guide. Hanger: lgth., $10\frac{1}{2}$ in.; width, $3\frac{1}{2}$ in.; thick., $\frac{1}{8}$ in. Gray enamel finish.

Packed 1 pair with carriage bolts. Wt. per pair, 7 lb.

No. 2...... per pair \$3.90

No. 542 Richards-Wilcox Round Track Door Hangers and Tracks



Hangers

Frame is of malleable iron, with ribbed back.

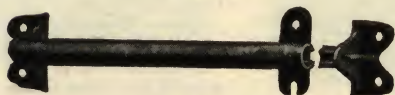
Wheels are of gray iron lathe turned. Bearings, steel rollers.

Limit roller prevents binding or derailment of door.

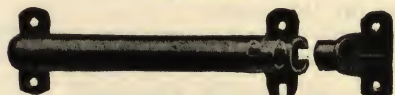
Black enamel finish.

No.....	542-A	542-B
Per Dozen Pairs.....	\$72.60	87.00
Dimensions.....inches	4x9 $\frac{1}{2}$	5 $\frac{1}{2}$ x12
Diam. Wheels.....inches	2 $\frac{1}{4}$	2 $\frac{1}{2}$
For Door Thicknesses...in.	Up to $\frac{3}{4}$	$1\frac{3}{4}$ to 2
For Track Size.....inches	$\frac{7}{8}$	$1\frac{1}{16}$
Weight per Dozen.. pounds	75	110

Tracks



No. 542-A-1



No. 542-B

Can be furnished in 4, 6, 8 and 10-foot lengths.

No.....	542-A-1	542-B
Per 100 Feet.....	\$29.00	36.00
Diameter.....inches	$\frac{7}{8}$	$1\frac{1}{16}$
Weight per 100 Feet.....pounds	75	100

No. 97 R-W Approved Fusible Links For Fire Doors



Made of pressed steel. Stamped 160 degrees. Included in list of fire door hardware which is inspected and labeled by Underwriters' Laboratories, Inc., under direction of National Board of Fire Underwriters.

Packed 100 in a box. Weight, each, 2 ounces.

No. 97...... each \$.50

R-W No. 150 $\frac{1}{2}$ B Factory Standard Wharf and Warehouse Door Hangers

Ball-Bearing



For doors weighing approximately 800 pounds. Distance top of door to bottom of track: minimum, $1\frac{1}{2}$ in.; maximum, $2\frac{5}{8}$ in. Bottom of track to center of hole in bracket, 5 in. Frames, drop-forged.

Wheels, drop-forged steel, 3 in. diameter. Finish, gray enamel. Adjustment, lateral and vertical. Apron, $9\frac{1}{2}$ in. long, 4 in. wide, $\frac{3}{16}$ in. thick, punched for $\frac{3}{8}$ -in. bolts. No. 1 for doors $1\frac{3}{4}$ -in. to 2 in. No. 2 for doors $2\frac{1}{4}$ to 3 inches thick.

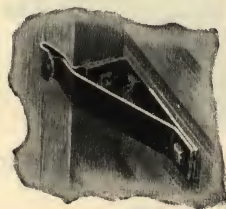
Packed 1 pair of hangers with stove bolts in wood box.

Weight: hangers, per pair, $20\frac{1}{2}$ lb.; track, per ft., 4 lb.; brackets, each, $2\frac{1}{2}$ lb.

No. 150 $\frac{1}{2}$ B, 1 or 2 Hangers.....	per pair	\$18.05
No. 33 Track, 4, 6, 8 and 10-Foot Lengths (4 Pieces per Bundle).....	per foot	1.70
No. 1x33 Center Brackets.....	each	*1.10
No. 2x33 End Brackets.....	each	*1.20

*For galvanized brackets, add 33 cent's per pound.

No. 89 R-W Adjustable Door Stops and Binders



For doors $1\frac{3}{4}$ to 3 inches thick. Made of three pieces of steel. Base is $\frac{3}{16}$ -inch thick, pivoted brace, $\frac{1}{8}$ -inch thick by $1\frac{3}{4}$ inches wide. Attach with $\frac{1}{16}$ -inch lag screws or bolts. Packed 2 in a metal-edged box with screws.

Weight, per 100, 179 pounds.

No. 89, Black Japan Finish......each \$1.20

No. 54 R-W Barn Door Stay Rollers



Used on box stalls and all inside sliding doors, where stay can be attached to floor. Gray iron wheel, $2\frac{1}{2}$ inches diameter, covered with steel frame. Packed one dozen in metal-edge box. Weight, 27 lb.

No. 54......each \$.99

No. 154 R-W Steel Warehouse Door Stay Rollers



Designed for heavy doors. Gray iron wheel, $3\frac{1}{2}$ -inch diameter. Steel frame has screw holes slotted, providing a means for adjustment. Japan finish.

No. 154......each \$3.15

No. 53 R-W Handy Barn Door Stay Rollers



For inside and outside doors, from 1½ to 2½ inches thick. Adjustable and reversible.

Grey iron wheels, 2 inches in diameter. Steel frame. Japan finish. Packed in bulk. Weight, per dozen, 9½ pounds.

No. 53.....each \$.50

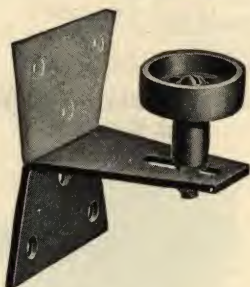
No. 151 R-W Safety Stay Rollers



Inside doors only. Especially designed for small freight and warehouses. Made of grey iron. Wheel of grey iron, 2 inches in diameter. Japan finish. Packed 12 in a metal-edge box. Weight, per dozen, 17½ pounds.

No. 151.....each \$.73

No. 153 R-W Steel Warehouse Door Stay Rollers



Adjustable and reversible. Wheel, gray iron, 2½-inch diameter; steel frame; black japan finish.

No. 153, Wt. per 100, 217 Lbs.....each \$.94

R-W Floor Center Stops



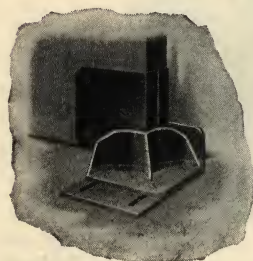
This floor stop is for use with pairs of sliding doors.

It can be fastened to floor or embedded in concrete.

Made of grey iron. Finish, black japan.

No.....	171-2	171-2¼	171-3
Door Thickness.....inches	2	2¼	3
Each.....	\$1.70	1.80	2.10
Weight per 100.....pounds	350	370	433

No. 272 R-W Adjustable Floor End Door Stops and Guides



Adjustable for doors 1¾ to 3 inches thick.

For straight sliding or right-angle garage doors. Holds the bottom of doors in position when either opened or closed.

Suitable for use with concrete or wood floors. Used with concrete floors, base should be set into concrete about ¾ inches.

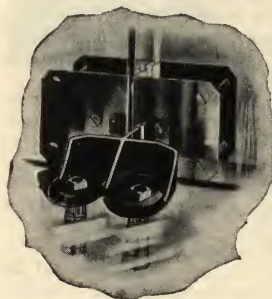
Made of steel and gray iron. Finish, black enamel.

Weight per 100, 250 pounds.

No. 272.....each \$1.65

Two No. 435-72 steel bumper shoes, used on each end of door, may be ordered for 19 cents each.

No. 571 R-W Adjustable Floor Center Stops and Guides



Designed for use with pairs of sliding doors.

Acts as a guide and stop.

Adjustable for any door 1¾ inches or over.

Made of malleable iron.

Black enamel finish.

Weight each, 2½ pounds.

No. 571.....each \$2.20

R-W Steel Flush Pulls

No. 70-1



For doors up to 1¾ inches thick. Requires ¾ inch deep mortise in doors. Size 4x5½ inches; inside dimension of cup, 1½x3½ inches, ⅞ inch deep. Black enamel finish.

Packed in bulk.

Weight per 100, 75 pounds.

No. 70-1.....each \$.50

No. 70-2

For doors over 1¾ inches thick. Requires 1½ inch deep mortise in door. Size, 4½x7 inches. Inside dimensions of cup, 1¾x4½ inches, 1⅞ inches deep. Black enamel finish.

Packed in bulk.

Weight per 100, 125 pounds.

No. 70-2.....each \$.61

No. 416-1 R-W Titite Door Locks



This lock is intended for parallel doors and is furnished with a flush keeper.

Can be used on doors 1¾ inches or more in thickness.

The lock is attached on the edge of the door, while the keeper is inserted into the face of the other door.

When desired a padlock can also be used to lock the doors.

Packed 1 in a box including screws for attaching.

Weight per 100, 150 pounds.

No. 416-1, Black.....each \$2.40

No. 416-1, Galvanized.....each 2.75

R-W Door Latches



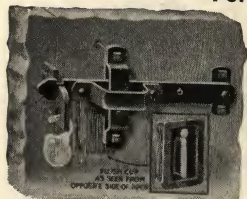
For either inside or outside use. Right or left hand. A simple and strong steel latch, made of forged steel, ⅝ inch thick and 1 inch wide.

Attractively finished in black japan or galvanized.

Packed one dozen in a box, six right hand and six left hand, complete with screws for attaching to the door.

No.....	1025-1	1025-2
Black.....each	\$1.20	\$1.45
Galvanized.....each	1.45	1.70
Size.....inches	6	8
Weight per 100.....pounds	98	108

**No. 152A R-W Latches
For Sliding Doors**



For heavy mill or warehouse sliding doors, $1\frac{3}{4}$ to $2\frac{3}{4}$ inches thick. Reversible for right or left-hand doors.

Operates from either side of door; may be locked by padlock. Latch bar: $13\frac{5}{8}$ inches long; $1\frac{1}{2}$ inches wide; $\frac{5}{16}$ inch thick.

Gray enamel finish.

Packed 1 latch in a box. No bolts furnished.

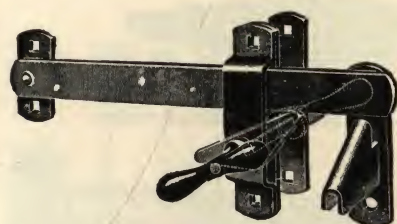
Weight, $5\frac{1}{2}$ pounds.

No. 152A-1. Two-piece keeper as shown. Flush cup, $2\frac{1}{2}$ inches wide by $3\frac{1}{8}$ inches high inside.

No. 152A-2. Keeper same as No. 152A-1. Flush cup, 4 inches wide by 4 inches high inside.

No. 152A-2. each \$3.05

No. 225 R-W Lion Steel Latches



For swinging doors only.

Reversible for right or left-hand doors.

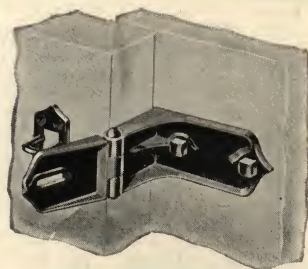
Operated from either side of door.

Japan finish.

Packed 1 in a metal-edged box.

No.	225-1	225-2	225-3	225-4
Each.	\$1.95	2.20	2.75	3.50
Thick. Doors				
.....in.	$1\frac{3}{4} \times 2\frac{5}{8}$	$1\frac{3}{4} \times 2\frac{5}{8}$	$1\frac{3}{4} \times 2\frac{5}{8}$	Up to 3
For Doors....	Light	Light	Medium	Ex. Heavy
Latch Bar...in.	$10 \times 1 \times \frac{1}{4}$	$12 \times 1 \frac{1}{4} \times \frac{1}{4}$	$14 \times 1 \frac{1}{2} \times \frac{3}{16}$	$14 \times 1 \frac{1}{2} \times \frac{3}{16}$
Wt.....lb.	3	$3\frac{1}{2}$	6	7

No. 182 R-W Heavy Hasps



For use with heavy doors as a door bumper, binder and hasp.

Length on wall, $7\frac{1}{8}$ inches. Length of hinged leaf which overlaps door, 5 inches.

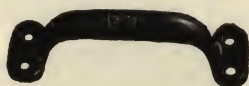
Furnished with screws for padlock eye. Wall bolts furnished at additional cost if specified.

Gray enamel finish.

Packed in bulk.

No.	2	3
Each.	\$4.00	4.25
For Size Door.....inches	$1\frac{3}{4}$	$2\frac{1}{2}$ to 3
Weight.....pounds	$3\frac{3}{4}$	4

No. 81-1 Richards-Wilcox Bow Handles



Made of grey iron. $6\frac{1}{4}$ inches long over all. Black enamel finish.

Packed one dozen in a box. Weight, $\frac{1}{2}$ pound each.

Price, No. 81-1.....each \$.61



**No. 836 Richards-Wilcox
Wrought Steel Offset
Surface Hinges**

Made of No. 12 wrought steel. Size $4 \times 2\frac{1}{2}$ inches. Hinge eye is offset to allow 3 inches between doors when folded. Black enamel finish. One pair in a box with screws; weight, 2 pounds.

No. 836.....per pair \$1.95

No. 636 R-W Offset Surface Hinges



Made of No. 12 gauge wrought steel. The hinge eye is offset to allow $1\frac{1}{2}$ inches between the doors when folded. Finish, black enamel.

Packed one pair in a box.

Size.....inches	$2\frac{1}{2} \times 4$	$3\frac{1}{2} \times 5$	4×7
Weight.....pounds	2	5	$6\frac{1}{2}$
No. 636.....per pair	\$1.80	3.05	3.90

No. 435 R-W Surface Hinges



Made of No. 12-gage steel.

Finish, black enamel.

Packed 1 pair in a box. The $2\frac{1}{2} \times 4$ -inch size packed with screws; $3\frac{1}{2} \times 5$ -inch size with head stove bolts long enough for a door $2\frac{1}{2}$ inches thick.

Size.....inches	$2\frac{1}{2} \times 4$	$3\frac{1}{2} \times 5$
No. 435.....per pair	\$1.55	2.75
Weight.....pounds	$1\frac{1}{2}$	4

**No. 311 R-W Half Surface Ornamental
Butt Hinges**



Made of wrought steel, in one size only, 4 inches wide.

Center of hinge pin is $3\frac{3}{4}$ inches from edge of jamb and hinge extends $4\frac{1}{2}$ inches on face of door. This give sufficient offset to allow two doors each $1\frac{3}{4}$ inches thick to stand flush with jamb when opened at a 90 degree angle.

Black enamel finish.

Packed 1 pair in a box, with screws.

Shipping weight, $3\frac{3}{4}$ pounds per pair.

No. 311- $6\frac{1}{2}$ Inch.....	per pair	\$2.15
No. 311-8 $\frac{1}{2}$ Inch.....	per pair	2.40
No. 311-14 Inch.....	per pair	3.95

No. 03-3 R-W Heavy Hinges



Pintle, malleable iron, 7 inches high, $2\frac{1}{4}$ inches wide.

Steel strap, $\frac{5}{16}$ inch thick, $2\frac{1}{2}$ inches wide.

Pintle pins, $\frac{1}{2}$ -inch diameter.

Japan finish.

Size.....inches	18	24	30	36
No. 03-3.....per pair	\$6.35	7.05	7.70	8.45
Weight per Pair.....pounds	18-14	21-17	24-20	27-23

No. 1036 R-W Heavy Strap Hinges

With Mortise Pintle



Designed especially for large swing doors. Made of wrought steel, in various sizes. Anti-friction washer and 1/2-inch riveted pintle pin. Black japan finish.

Packed in bulk or one pair in box with 5/16x3 1/4-inch carriage bolts for sizes up to 24 inches, and 3/8x3 1/4-inch for sizes over 24 inches.

Size Strap In.	Ht. Pintle In.	Ship: Wt. Lbs.	PER PAIR Without Bolts
10x2 1/2	6	6 1/2	\$4.15
12x2 1/2	6	7	4.45
18x2 1/2	6	8 1/2	5.10
24x2 1/2	6	10	5.85
30x3	7	15	7.05
36x3	7	18	7.85

No. DB-1035 R-W Heavy Offset Hinges

With Surface Pintle



Especially designed for garage, warehouse, factory and other heavy doors. Pintle can be set far enough from edge of opening so door will clear the opening when standing at right angles to doorway. The 18 and 24-inch straps, made of 1/4-inch wrought steel, 30 and 36-inch straps made of 5/16-inch wrought steel, 2 1/2 inches high.

Furnished with adjustable clip which can be bolted to the door near the edge regardless of the distance the pintle is set from the jamb.

Pintles are made in two widths: 1 3/4-inch and 2 1/2-inch. Unless otherwise specified, the 1 3/4-inch will be furnished. Pintle is furnished with loose cadmium-plated pintle pin, 1/2 inch in diameter. Bolt holes are 5/16 inch in diameter located at 5 1/2-inch centers. Black japan finish.

Furnished with hardened cadmium-plated disk bearings; or with cadmium-plated ball bearing units at extra price.

Packed in bulk or one pair in a box with 3/8x3 1/4-inch carriage bolts.

Size Strap... in.	19x2 1/2	24x2 1/2	30x2 1/2	36x2 1/2	42x2 1/2	48x2 1/2
No. DB-1035, in Bulk Less						
Bolts... per pr.	\$6.05	6.60	7.25	8.45	9.70	10.90
Ship. Wt.... lb.	16	18	20	22	24	26

No. 82 R-W Door Binders



Made of steel 1/4-inch thick, 2 inches wide.

No. 82-2, for 1 3/4-Inch Door.....	each	\$.55
No. 82-4, for 2 1/4-Inch Door.....	each	.61
No. 82-6, for 2 3/4-Inch Door.....	each	.66

Stanley Wrought Steel Light Strap Hinges

No. 900, Plain Steel—Fast Pin
No. 900RBP, Galvanized with Brass Pin



Length Each Leaf, In.	PER DOZEN PAIRS —WITHOUT SCREWS—	Length Joint In.	WOOD SCREWS Qty.	Size, In.	Pairs per Box	Wt., Lb. per 12 Pairs
2	1	6	5/8x 5	12	1 3/8
3	1 3/32	6	3/4x 6	12	2 3/8
4	1 3/16	6	3/4x 7	12	4
5	1 11/32	8	7/8x 8	6	6
6	1 1/16	8	1 x 9	6	9
8	1 7/8	8	1 x10	6	15
10	2 3/32	8	1 1/4x10	3	22

Stanley Wrought Steel Heavy Strap Hinges

No. 902, Plain Steel—Fast Pin
No. 902RBP, Galvanized with Brass Pin



Length Each Leaf, In.	PER DOZEN PAIRS —WITHOUT SCREWS—	Length Joint In.	WOOD SCREWS Qty.	Size, In.	Pairs per Box	Wt., Lb. per 12 Pairs
4	1 9/16	6	1 x 9	6	6
5	1 3/4	8	1 x10	6	9 1/2
6	2 1/16	8	1 1/4x10	3	19
8	3 3/16	8	1 1/4x12	3	32 3/4
10	3 31/32	8	1 1/2x14	6	52 1/4
12	4 9/16	10	1 1/2x16	6	81 1/2
14	4 3/4	10	1 1/2x16	*1	86 1/2

Stanley Wrought Steel Light T Hinges

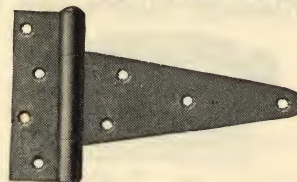
No. 904, Plain Steel—Fast Pin
No. 904RBP, Galvanized with Brass Pin



Length Strap—Without Screws—Joint In.	PER DOZEN PAIRS —WITHOUT SCREWS—	Length Pad In.	Width Pad In.	Width Strap at Jt., In.	WOOD SCREWS Qty.	Size, In.	Pairs per Box	Wt., Lb. per 12 Pairs
2	2	1 1/2	7/8	6	5/8x 5	12	1 1/2
3	2 1/4	3/4	1 3/32	6	3/4x 6	12	3
4	2 5/8	3/4	1 5/16	6	3/4x 7	12	3 1/2
5	3	7/8	1 7/16	7	7/8x 8	6	5
6	3 1/4	7/8	1 5/8	7	7/8x 8	6	6 1/4
8	4	1	1 1/2	7	1 x 9	6	10
10	4 1/2	1 1/4	1 5/8	8	1 1/4x10	3	14
12	4 3/4	1 1/2	2	8	1 1/4x10	3	22

Stanley Wrought Steel Extra Heavy T Hinges

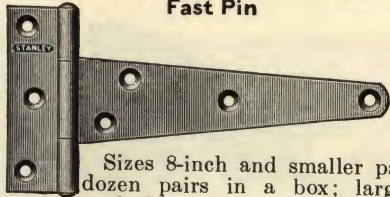
No. 908, Plain Steel—Fast Pin
No. 908RBP, Galvanized with Brass Pin



Length Strap—Without Screws—Pad In.	PER DOZEN PAIRS —WITHOUT SCREWS—	Length Pad In.	Width Pad In.	Width Strap at Jt., In.	WOOD SCREWS Qty.	Size, In.	Pairs per Box	Wt., Lb. per 12 Pairs
4	3 1/2	1 1/4	1 5/8	6	1 x 9	6	7 3/4
5	3 7/8	1 1/16	2 1/8	8	1 x10	6	13 1/2
6	4 1/2	1 3/4	2 3/8	8	1 1/4x10	3	21 1/4
8	5 1/2	2 1/8	2 7/8	9	1 1/2x12	3	37
10	7	2 1/4	3 1/2	9	1 1/2x14	6	58
12	7 3/4	2 3/4	4 1/16	10	1 1/2x16	6	78
16	7 3/4	2 3/4	4 3/16	11	1 1/2x16	*1	88

*Wired, not boxed.

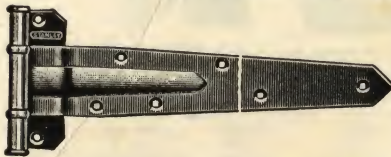
Stanley Heavy Wrought Steel T Hinges Fast Pin



Sizes 8-inch and smaller packed 1/2 dozen pairs in a box; larger sizes packed 1/4 dozen pairs in a box. Without screws.

Length Strap.....inches	4	5	6	8	10	12
No. 906, Pl. Steel.....doz. pr.						
No. 906 RBP, Galv.....doz. pr.						
Length Joint.....inches	2 7/8	3 1/4	3 1/2	3 7/8	4 1/2	5 1/2
Width of Pad.....inches	7/8	1 1/8	1 3/16	1 3/8	1 1/2	2
Size Screws.....inches	7/8x8	7/8x8	1x9	1x10 1/4	1x10 1/4	1x12
No. Screw Holes.....	6	7	7	7	8	9
Wt. per Doz. Pairs.....lb.	4 1/2	7 5/8	8 5/8	12	19 1/4	31 1/2

No. BB1456 Stanley Wrought Steel Extra Heavy Garage and Industrial Hinges Full Surface Ball Bearing—Fast Pin



Hinge swings door entirely clear of opening. Door must be set flush with casing. Use three hinges to a door.

Made of wrought

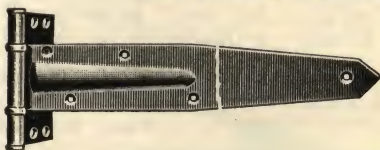
steel, toughened and hardened by cold rolling.

Equipped with two ball bearings, which prevent hinges from wearing at the joints. Screw holes in the door leaf are made to take wood screws or carriage bolts.

Furnished in japanned (J), dead black (J1) or (KJ1) dead black over a zinc-coated base. Packed 1 pair in a box in 12 and 18-inch sizes; larger sizes 1 pair in a package; with screws.

For Lgth. Min. Door Top Leaf Rail In. In.	Gage of Metal In.	Lgth. of Joint In.	Width Jamb Leaf In.	Width Door Leaf at Joint In.	Quantity and Size of Wood Screws	Quantity and Size of Machine Screws Jamb Leaf	Wt. Lb. per Pair
12	5	.162	7 $2\frac{1}{2}$ $\frac{32}{32}$	3	10-1 $\frac{1}{2}$ x14	5-1 $\frac{1}{2}$ x $\frac{1}{4}$ -20	6
18	5	.162	7 $2\frac{1}{2}$ $\frac{32}{32}$	3	12-1 $\frac{1}{2}$ x14	5-1 $\frac{1}{2}$ x $\frac{1}{4}$ -20	8
24	5	.162	7 $2\frac{1}{2}$ $\frac{32}{32}$	3	14-1 $\frac{1}{2}$ x14	6-1 $\frac{1}{2}$ x $\frac{1}{4}$ -20	9
36	6	.197	8 $2\frac{3}{4}$ $\frac{16}{16}$	4	14-2 x18	6-5 $\frac{1}{8}$ x $\frac{1}{16}$ -18	21

No. BB1458-J1 Stanley Extra Heavy Ball Bearing Hinges Half Surface—Non-Template



Designed for use on doors of garages and industrial buildings. Made of extra heavy wrought steel, toughened and hardened by cold rolling.

Equipped with 2 ball bearings, which prevent the hinges from wearing at the joints. Three hinges are used to a door, furnished in japanned finish.

Packed one pair in a box of 12 and 18-inch size; larger sizes, one pair in a package.

Size Length of Door Leaf...inches	12	18	24	36
No. BB1458-J1, with Screws, per pr.				
For Min. Top Rail.....inches	5	5	5	6
Length of Joint.....inches	7	7	7	8
Width of Jamb Leaf.....inches	2 13/16	2 13/16	2 13/16	3 5/16
Width of Door Leaf at Joint...in.	3	3	3	4
Offset.....inches	1 1/16	1 1/16	1 1/16	1 1/16
Throw of Clearance.....inches	1 3/4	1 3/4	1 3/4	1 3/4
Weight, per Pair.....pounds	6	8	10	22

No. 966 Stanley Extra Heavy Wrought Steel T Hinges Loose Pin



For residential garage doors. Applied half surface or full surface.

Use three hinges to a door. Doors must set flush with casing. Sizes 8 and 10-inch have 9 screw holes; size 12-inch, 10 screw holes.

Packed 1 pair in a box with screws.

Size Length Door Leaf....inches	8	10	12
No. Sc966PS, Plated Steel, per pr.			
No. Sc966J, Japanned.....per pr.			
Length of Joint.....inches	5 1/2	7	7 3/4
Width Strap at Joint.....inches	2 3/4	3 1/2	3 7/8
Size of Screws.....	1 1/2x12	1 1/2x14	1 1/2x16
Weight per Pair.....pounds	4	5	7



No. 951 Stanley Screw Hook with Strap Hinges

Wired 1 pair in a bundle. Wrought steel.

Length of Strap Inches	Per Doz. Pairs	Size of Hook Inches	Width of Strap Inches	No. and Size of Hole, In.	Wt., Lb. per Doz. Pairs
6	1 1/2x4	1 1/4	2-5/16	22
8	1 1/2x4	1 1/4	2-5/16	25
10	5/8x5	1 1/4	3-3/8	35
12	5/8x5	1 1/4	3-3/8	38
14	3/4x6	1 1/2	3-3/8	71
16	3/4x6	1 1/2	3-3/8	78
18	3/4x6	1 3/4	4-3/8	91
20	3/4x6	1 3/4	4-3/8	98
24	7/8x7	2	4-3/8	141
30	7/8x7	2	5-3/8	161
36	7/8x7	2	5-3/8	184

No. 975 Stanley Wrought Steel Hasps and Staples



Packed 1 dozen in a box without screws.

Length of Hook.....inches	4	5	6
No. 975PS, Plain Steel, per doz.			
No. 975R, Galvanized, per doz.			
Staples.....inches	1 1/2x1 1/8	1 1/2x1 1/8	1 1/2x1 1/8
Hook Wire.....inches	1 1/4	3/16	3/16
Size of Wood Screws.....	3/4x7	3/4x7	3/4x7
Net Weight per Gross...pounds	28	39	42

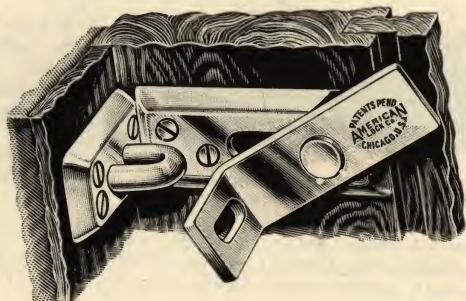
No. 913 Stanley Wrought Hinge Hasp Staples Plain Steel



Packed 2 dozen in a box.

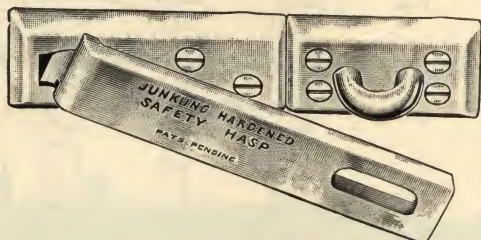
Size No.....	3	6	8	10
No. 913.....per dozen				
Projection of Staples in.	3/4	3/4	3/4	1 5/16
Size of Plate.....inches	1 1/2x1 1/8	2x1 1/4	2 1/16x1 1/2	2 3/4x2 1/16
Average Weight per Dozen Pieces, pounds	3/4	1 1/4	1 5/8	3 1/2

No. 850 Junkunc Safety Hasp Units



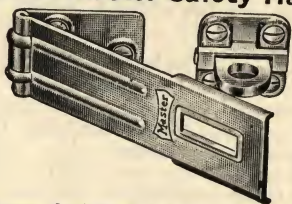
Made of case hardened steel, saw-proof and file-proof.
Consists of one $\frac{1}{16} \times 1\frac{5}{8} \times 4\frac{1}{4}$ -inch beveled edge base, with $\frac{1}{4} \times 1\frac{1}{4}$ -inch offset locking bar which slides over $\frac{1}{16}$ -inch staple, mounted on $\frac{1}{16} \times 1\frac{5}{8} \times 3$ -inch beveled edge base.
Opening of staple only $\frac{1}{2} \times \frac{1}{2}$ inch for padlock.
Packed 6 sets in box with screws. Net weight, $1\frac{1}{4}$ pounds per set.
No. 850, Zinc Plated.....per dozen \$18.00

No. 825 Junkunc Safety Hasps



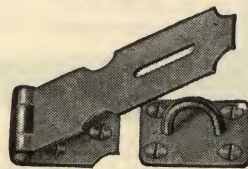
Made of steel. Consists of one $\frac{1}{16} \times 1\frac{5}{8} \times 7\frac{1}{4}$ -inch beveled edge base with $\frac{1}{4} \times 1\frac{1}{4} \times 6\frac{1}{2}$ -inch locking bar. Hasp staple $\frac{1}{16}$ -inch diameter with only $\frac{1}{2} \times \frac{1}{2}$ -inch opening for padlock.
Packed 6 sets in box with screws. Net weight, $1\frac{1}{4}$ pounds per set.
No. 825 Zinc Plated.....per dozen \$18.00

No. 704 Master Safety Hasps



A powerful hasp designed for great strength and durability. Length $4\frac{1}{2}$ inches. Heavy gage steel throughout. Reinforced, wide-ribbed construction. Protected screw seatings. Husky padlock eye of heavy, cold-rolled steel. Rustproofed throughout with pure cadmium. Complete with 7 easy-to-install screws. All screws locked in when hasp is closed.
Individually boxed with screws, 12 to an attractive counter display. Weight per dozen, $4\frac{1}{2}$ pounds.
No. 704.....per dozen \$4.20

Stanley Wrought Safety Basket Hasps



When the hasp is closed and locked, the screws are covered and they cannot be removed.
Length of slotted part, $2\frac{5}{8}$ inches; hinge part, $1\frac{1}{8} \times 1\frac{1}{16}$ inches; joint, $\frac{1}{16}$ inch; staple plate, $1\frac{1}{8} \times 1\frac{1}{16}$ inches.
Packed 12 in a box with screws; 50 dozen in a case; case weight, No. 346, 53 pounds; No. 1862, 59 pounds.
No. 346, Steel, with Screws.....per dozen
No. 1862, Brass, with Screws.....per dozen

No. 911 Stanley Wrought Steel Safety Hasps
Plain Steel—With Fixed Staple



When fastened, all screws are concealed and cannot be removed.
Packed 12 in a box without screws.

Length Slotted Part Inches	Per Dozen	Hinge Part Inches	Length Joint Inches	Size and No. of Screws	Wt., Lb. Per Dozen
$2\frac{1}{2}$	$1\frac{1}{8} \times 1$	1	7— $\frac{5}{8} \times 5$	$1\frac{1}{2}$
$3\frac{1}{2}$	$1\frac{3}{16} \times 1\frac{1}{2}$	$1\frac{1}{2}$	7— $\frac{3}{4} \times 7$	3
$4\frac{1}{2}$	$2\frac{1}{4} \times 1\frac{1}{2}$	$1\frac{1}{2}$	7— $\frac{7}{8} \times 9$	$4\frac{1}{2}$
6	$2\frac{3}{4} \times 1\frac{7}{8}$	$1\frac{7}{8}$	9—1 x9	$8\frac{1}{2}$

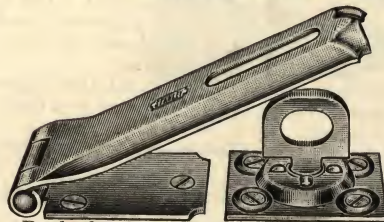
No. 915 Stanley Wrought Steel Safety Hasps
With Adjustable Staple



When fastened all screws are covered and cannot be removed. The adjustable feature of staple permits hasp to operate when the position of the door is changed by shrinkage.
Staple is in vertical position which permits the padlock to lie flat.
No. 915 is plain steel, No. Sc915 plain steel with screws; No. Sc915K zinc plated with screws.

Lgth. Slotted Part In.		Lgth. Joint In.		Staple Plate In.		Qty. and Size Wood Screws		—No. in Box—			Wt., Lb. per Doz.
Part In.	Hinge In.	Part In.	Joint In.	Part In.	Joint In.	Screws	Size	No. 915	WITH SCREWS LESS No. 915K	No. 915K	per Doz.
								12	1	1	3 $\frac{1}{4}$
$3\frac{1}{2}$	$1\frac{5}{16} \times 1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{8} \times 1\frac{1}{2}$	$1\frac{1}{2}$	7— $\frac{3}{4} \times 7$	$7-\frac{3}{4} \times 7$	12	1	1	$3\frac{1}{4}$
$4\frac{1}{2}$	$2\frac{1}{8} \times 1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{8} \times 1\frac{1}{2}$	$1\frac{1}{2}$	7— $\frac{7}{8} \times 7$	$7-\frac{7}{8} \times 7$	12	1	1	$4\frac{1}{4}$
6	$2\frac{3}{4} \times 1\frac{7}{8}$	$1\frac{7}{8}$	$1\frac{7}{8}$	$2\frac{1}{16} \times 1\frac{7}{8}$	$1\frac{7}{8}$	9—1 x9	9—1 x9	6	1	1	$8\frac{1}{4}$
7	3 x2 $\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{1}{2}$	3 x2 $\frac{1}{2}$	$2\frac{1}{2}$	9—1 $\frac{1}{4}$ x11	9—1 $\frac{1}{4}$ x11	3	1	1	$21\frac{1}{2}$

No. 917 Stanley Wrought Steel Safety Hasps
With Adjustable Swivel Staple



When fastened, all screws are concealed and cannot be removed. A quarter turn of the swivel staple makes it possible to secure the door without the use of a padlock.
Packed 1 dozen in a box without screws.
Size, Length Slotted Part.....inches $3\frac{1}{2}$ $4\frac{1}{2}$ 6
No. 917PS, Plain Steel.....per pair
Length of Joint.....inches $1\frac{1}{2}$ $1\frac{1}{2}$ $1\frac{7}{8}$
Size of Screws.....inches $\frac{3}{4} \times 7$ $\frac{3}{4} \times 7$ $\frac{7}{8} \times 8$
No. of Screw Holes.....inches 7 7 9
Weight per Dozen.....pounds 3 4 7

Send Us Your Mail Orders
We Assure You Your Orders Will
Be Handled Promptly and Carefully

No. 8705 Keil Store Door Hasps and Staples



Heavy grade. Made of cast brass, highly polished. Screws cannot be tampered with. For 1 1/4 x 10 flat head screw.

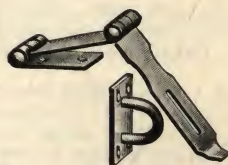
Length overall, 4 1/2 inches.

Packed 3 in a box, without screws.

Weight each, 1 pound.

No. 8705..... per dozen \$23.10

No. 925 Stanley Hinge Hasps
Wrought Steel



Made with a double hinge for use on tool chests, etc. When fastened, all screws are concealed.

The 3-inch size is packed 12 in a box; 4-inch size, 6 in a box.

Japanned and zinc finishes are furnished with 7 wood screws.

Length Slotted Part.....in.	3	4
Plain Steel, without Screws.....per doz.	.....	.....
Zinc, with Wood Screws.....per doz.	.....	.....
Japanned, with Wood Screws.....per doz.	.....	.....
Size Hinge Part.....in.	1 3/8 x 1 1/16	1 3/4 x 1 3/16
Size Staple Plate.....in.	1 1/2 x 1 1/8	2 x 1 1/4
Distance bet. Centers of Hinges.....in.	1 1/16	2 1/16
Size Wood Screws.....in.	3/4 x 7	1 x 9
Wt. per Doz., without Screws.....lb.	2 5/8	6 1/4
Wt. per Doz., with Screws.....lb.	3 3/4	7

No. 349 Stanley Wrought Steel Hinge Hasps



For baskets, boxes, chests and cabinets.

When ordering, specify class number, finish, and size.

Packed 1 dozen in a box with wood screws.

Length of Slotted Part.....inches	2	2 1/4
Hinge Part.....inches	1 1/8 x 3/4	1 1/16 x 7/8
Length of Joint.....inches	3/4	7/8
Staple Plate.....inches	1 5/16 x 3/4	1 1/8 x 15/16
Gage of Metal.....inches	.050	.050
Wood Screws.....inches	5/8 x 4	5/8 x 4
Weight per Dozen.....pounds	3/4	1

No. 912 Stanley Hinge Hasps
Wrought Steel



Bright steel finish.

Size 6 inches and smaller packed 12 in a box; larger sizes packed 6 in a box.

Without screws.

Length Strap Inches	Per Dozen	No. of Screw Holes	Size of Screws	Dozens in Case	Weight, Lb. Per Dozen	Case
3	7	3/4 x 6	25	2	52
4 1/2	8	3/4 x 6	25	2 3/4	70
6	8	1 x 9	10	5 1/4	54
8	8	1 x 10	5	8	42
10	8	1 1/4 x 10	3	13 1/4	41

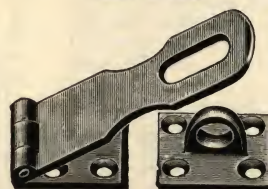
No. 941 Extra Heavy Wrought Steel
Hinge Hasps



The 7 1/2-inch size is packed six in a box with screws; larger sizes, three in a box. All with wood screws except plain steel, which are packed without screws.

Length Inches	PS Plain Steel per Doz.	RBP Galv. with Brass Pin per Doz.	J Japanned with Screws per Doz.	Width Joint In.	Gage of Metal	No. of Screw Holes	Size of Screw Holes	Wt. Lb. per Doz.
7 1/2	1 3/4	.168	8	1 1/2 x 12	12
9	2 1/8	.180	8	1 1/2 x 12	18
10	2 3/8	.180	8	1 1/2 x 12	19 1/2

Corbin Safety Hinge Hasps
Cast Brass



When locked, screws are concealed and protected. Overall size slotted flap, 2 7/8 x 1 inches; hinge flap, 1 1/8 x 1 inches; staple, 1 1/4 x 1 inches.

Packed 1 dozen in a box without screws.

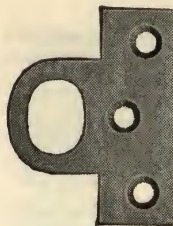
Weight per dozen, 2 1/8 pounds.

No. 03306 1/4, Buffed and Lacquered.....per dozen

No. 03306 1/2, Nickel Plated, Buffed.....per dozen

No. CR03306 1/4, Chrome Plated.....per dozen

No. 1245 Stanley Wrought Steel
Padlock Eyes



Used in pairs, being attached to the edge of the door and the edge of the jamb. When door is closed, screws are concealed and the padlock shackle can be slipped through both eyes.

Furnished japanned or bright zinc-plated.

Packed 1 dozen pairs in a box with wood screws.

Size No.	1	2	3
Per Dozen Pairs.....	.....	.....	.....
Size.....inches	1 5/8 x 1 1/16	2 1/8 x 1 1/8	2 3/4 x 2 3/16
Gage of Metal.....inches	.095	.109	.134
Size Wood Screws.....inches	3/4 x 7	7/8 x 10	1 x 12
Weight per Doz. Pr.....lb.	1	2 1/4	4

Yale Padlock Chains



Clevis with chain 8 inches long for attaching to round wire padlock shackles without drilling and riveting.

Furnished in brass metal or steel, zinc plated.

Packed 12 in a box.

When Yale padlocks having round shackles are ordered with chain, the following chain will be supplied.

	Brass			Steel		
No.	41A	42A	23A	41S	42S	23S
Per Dozen.....	.....	.....	.....	.....	.....	.....
Chain No.	4A	4A	2A	4S	4S	2S
For Shkle. Diam. In.	3/16 - 1/4	9/32 - 5/16	11/32 - 3/8	3/16 - 1/4	9/32 - 5/16	11/32 - 3/8
Wt./Doz.....lb.	5/8	3/8	3/4	5/8	3/8	3/4

Yale Cast Brass Padlocks Super Pin-Tumbler Mechanism



Cast brass case, polished. Hardened steel or brass shackle, locks heel and toe. Deadlocking bolt is rap-proof. Phosphor bronze springs. Five pin tumblers; changes practically unlimited.

Nos. 830 and 831 have two No. 13½ keys; master-keying up to 1000; grand master-keyed.

Nos. 840, 841, 850, 851, 870 and 871 have two No. 8 keys; master-keying up to 5000; grand master-keyed.

For master-keying, add suffix MK to No.; for chain, add suffix ½ to No.; for key retaining, add suffix KR to No.

Packed 6 in a box.

	Steel Shackle				Brass Shackle			
No.	830	840	850	870	831	841	851	871
Per Dozen	.....	.....	.....	.....	.....	.....	.....	.....
Size.....in.	1½	1¾	2	2½	1½	1¾	2	2½
Diam.....in.	1¼	5/16	3/8	7/16	1¼	5/16	3/8	7/16
Clear.....in.	7/8	15/16	1	1¼	7/8	15/16	1	1¼
Wt./Doz.....lb.	5	8	10	14	5	8	10	14

Yale Brass Padlocks Pin-Tumbler Mechanism No. 771



Size, 1 inch. Solid brass polished case. Hardened steel shackle, phosphor bronze springs. Four pin-tumblers. Two No. 24½ keys; 500 changes.

Packed 6 in a box. Weight per dozen, 2½ pounds.

No. 771....per dozen

No. 771KA, Keyed Alike....per dozen

No. 771MK, Master-Keyed....per dozen

No. 773

Size, 1½ inches. Solid brass polished case. Hardened steel shackle, phosphor bronze springs. Five pin-tumblers. Two No. 13½ keys; changes practically unlimited.

Packed 6 in a box. Weight per dozen, 5 pounds.

No. 773....per dozen

No. 773KA, Keyed Alike....per dozen

No. 773MK, Master-Keyed....per dozen

No. 774

Size, 1¾ inches. Solid brass polished case. Hardened steel shackle, phosphor bronze springs. Five pin-tumblers. Two No. 8 keys; changes practically unlimited.

Packed 6 in a box. Weight per dozen, 8¼ pounds.

No. 774....per dozen

No. 774KA, Keyed Alike....per dozen

No. 774MK, Master-Keyed....per dozen

No. 775

Size, 2 inches. Solid brass polished case. Hardened steel shackle, phosphor bronze springs. Five pin-tumblers. Two No. 8 keys; changes practically unlimited.

Packed 6 in a box. Weight per dozen, 10 pounds.

No. 775....per dozen

No. 775KA, Keyed Alike....per dozen

No. 775MK, Master-Keyed....per dozen

No. 711PB Yale Die-Cast Padlocks Disc-Tumbler Mechanism



Size, 1 inch. Solid rustless, die-cast case, gray enamel finish. Hardened steel shackle, 5/16-in. diam., baked aluminum finish over parkerizing; shackle clearance, ½ inch. Two No. 24½ keys; five disc-tumblers; 200 changes; not master-keyed.

No. 711PB, 6 in a Box; Wt./Doz., 2½ Lb....per doz.

Yale Cast Bronze Padlocks



Lever-tumbler mechanism. Case is cast bronze with a wheel finish. Shackle is also bronze, wheel finish.

All parts, inside and out, are of non-corroding material.

Two keys are furnished with each lock.

Cannot be master-keyed.

Packed 6 in a box.

No.	833	843	853
Per Dozen	.....	.....	.....
Size.....inches	1½	1¾	2
No. of Lever-Tumblers	3	4	4
No. of Key Changes	48	72	144
Weight per Dozen.....pounds	4½	5¼	8½

Yale Silver Six Die-Cast Padlocks Pin-Tumbler Mechanism



Rustless, die-cast case. Hardened, parkerized steel shackle locks heel and toe. Baked aluminum finish.

No. 797 has two No. 33½ keys; five pin-tumblers; 1700 changes; master-keying up to 1000 using No. 13½ keys; not grand master-keyed.

No. 798 has two No. 8 keys; five pin-tumblers; changes practically unlimited; master-keying up to 1200; not grand master-keyed.

Packed 6 in a box.

No.	797	798
Per Dozen	.....	.....
Size.....inches	1½	1¾
Diameter Shackle.....inches	1¼	5/16
Clearance Shackle.....inches	13/16	7/8
Weight per Dozen.....pounds	5	7

Yale Silver Six Die-Cast Padlocks Disc-Tumbler Mechanism



Solid rustless, die-cast case. Parkerized steel shackle. Aluminum finish.

Five disc-tumblers; two No. 9278 keys; 200 changes; master-keying up to 3000; not grand master-keyed.

Packed 6 in a box.

No.	602	605
Per Dozen	.....	.....
Size.....inches	1½	1¾
Shackle Diameter.....inches	1¼	5/16
Shackle Clearance.....inches	3/4	13/16
Weight per Dozen.....pounds	5	7

KEYS

We make duplicate keys, master-keys, and keyed-alike systems of all makes.

AT YOUR SERVICE!

Yale Die-Cast Padlocks

Disc-Tumbler Mechanism



Solid rustless die-cast case, red enamel finish; case-hardened steel shackle, aluminum finish over parkerizing.

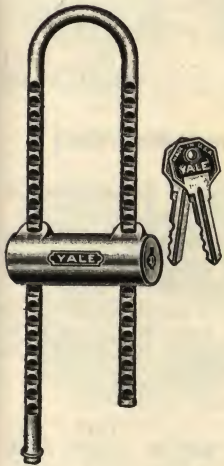
Five disc tumblers. Has 200 key changes. Two keys are furnished with each lock. Can be master-keyed in one group in any number up to 3000.

Packed 6 in a box.

Size.....	inches	1½	1¾
Without Chain: No.....		713J	714J
Per Dozen.....			
With Steel Chain: No.....		713½J	714½J
Per Dozen.....			
Size Case.....	inches	1½	1¾
Diameter Shackle.....	inches	1¼	5/16
Clearance Shackle.....	inches	¾	13/16
Weight per Dozen.....	pounds	4¼	5¾

No. 222 Yale Bicycle Padlocks

Disc-Tumbler Mechanism



Rustless, die-cast case, 2½ inches wide, red enamel finish.

Steel shackle, ¼-inch diameter, zinc plated finish; shackle clearance, 1⅛ to 5½ inches.

Furnished with two No. 9810 keys.

Five disc-tumblers; 200 changes; not master-keyed.

Packed 1 dozen in a box.

Weight per dozen, 7 pounds.

No. 222.....per dozen

No. 589 Yale Combination Padlocks



For lockers in schools, gymnasiums, etc.

Size, 1¾ inches. Rustless, die-cast case, black and zinc plated finish. Soft steel shackle, ¼-inch diameter, zinc plated over parkerizing; shackle clearance, 1 inch.

Three tumblers and 20,000 combinations; combinations recorded; charts supplied.

Operated by combination. Control key operates all locks in set.

Packed 50 in a box.

Weight per dozen, 7½ pounds.

No. 589.....per doz.

No. 515 Yale Combination Padlocks



For lockers in schools, gymnasiums, etc. Size, 2 inches.

Rustless, die-cast case, aluminum finish. Soft steel shackle, ⅜-inch diameter, black parkerized finish; shackle clearance, 1 inch.

Two tumblers and 10,000 combinations; combinations recorded; charts supplied.

Operated by sight only.

Packed 6 in a box.

Weight per dozen, 6½ pounds.

No. 515.....per dozen

No. 515½, with Chain.....per dozen

Corbin Sesamee Combination Padlocks



Suitable for protecting isolated buildings, boats and other objects left unguarded for long periods.

Has 10,000 possible change numbers. When shackle is closed and locked, padlock cannot be opened by tampering with change lever.

Hardened steel shackle, heavily nickel plated, locks at both ends. Solid one-piece forged brass case, brushed finish; rustproof brass and bronze locking mechanism.

Bronze locking mechanism.				
No.		436	437	438
Per Dozen.....				
Shackle Length.....	inches	$\frac{7}{8}$	$2\frac{1}{2}$	5
Base Size.....	inches	$1\frac{3}{4}$	$1\frac{3}{4}$	$1\frac{3}{4}$
Diam. of Shackle.....	inches	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$
No. in Carton.....		6	6	6
Ship. Wt. per Doz.....	pounds	$5\frac{1}{4}$	$6\frac{1}{4}$	$7\frac{3}{4}$

No. P55 Corbin Die Cast Padlocks

Disc-Tumbler Mechanism



Size, 1 inch.

Solid die-cast case, aluminum lustre finish.

Hardened steel shackle, cadmium plated; diameter, ⅜-inch. Height of opening, ½ inch. Height of case, 1 inch.

Number of disc tumblers, 5. Number of regular key changes, 144. Key blank, No. 4197¼YB.

Furnished with two brass, milled keys to each lock.

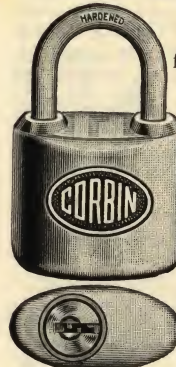
Packed 6 in a box.

Weight per dozen, 1¾ pounds.

No. P55.....each

No. P75 Corbin Die Cast Padlocks

Disc-Tumbler Mechanism



Size, 1¾ inches.

Solid die cast case, aluminum lustre finish. Height of case, 1½ inches.

Hardened steel shackle, cadmium plated. Diameter, ⅜ inch.

Height of opening, ¾ in.

Number disc-tumblers,

5.

Regular key changes, 200. Key blank, No. 5865 BV.

Furnished with 2 brass, milled keys to each lock.

Packed 6 in a box.

Weight per dozen, 6 pounds.

No. P75.....each

No. P75C, with No. 2214 nine-Inch Steel Chain Assembly.....each

No. 906H Corbin Solid Brass Padlocks Pin Tumbler



Size, $1\frac{3}{4}$ inches.
Solid brass case machined out to receive mechanism; satin finish. Height of case, $1\frac{1}{16}$ inches. Hardened steel shackle, cadmium plated. Diameter, $\frac{1}{2}$ inches. Height of opening, $2\frac{1}{2}$ inches. Number of pin tumblers, 5. Regular key changes, all different. Key blank No. 4193. Furnished with two brass keys to each lock. Can be masterkeyed. Packed 1 in a box; 6 in a carton.

Weight per dozen, $9\frac{3}{8}$ pounds.

No. 906H.....per dozen

No. P95 Corbin Solid Die Cast Brass Padlocks Pin Tumbler



Size, $1\frac{3}{4}$ inches.
Solid die cast case, aluminum luster finish. Height of case, $1\frac{3}{16}$ inches. Hardened steel shackle, cadmium plated. Diameter, $\frac{5}{16}$ inch. Number of pin tumblers, 6. With 250 regular key changes, all different. Key blank No. 8687. Furnished with two brass, milled keys to each lock. Can be furnished with 9-inch steel chain with No. 2214 steel chain assembly; add suffix C to No. if desired.

Packed 6 in a box.

Approximate weight, $5\frac{1}{4}$ pounds.

No. P95, $\frac{7}{8}$ -Inch Opening.....per dozen
No. P95H, 1-Inch Opening.....per dozen
No. P95B, $1\frac{1}{4}$ -Inch Opening.....per dozen
No. P95E, $1\frac{1}{2}$ Inch Opening.....per dozen
No. P95L, 2-Inch Opening.....per dozen

Chicago Solid Rustless Case Padlocks

Double Bitted Key



Self-locking. Double action locking principle. Revolving cam throws bolt in other side of shackle and positively grips both sides. Uses patented double locking plug, which incorporates eleven criss-cross tumblers that protrude from each side of the lock plug into the body of lock, giving double security. Tumblers are manually operated, eliminating freezing, or sticking, or breaking of tumbler springs.

Hardened shackle. Possible key changes, 200. Keyed alike at no extra charge. Not master keyed. Silver gray baked enamel finish.

Packed 1 in a box, 12 per carton.

No.....	740	741	742
Each.....	.....	.....	.....
9-Inch Chain.....add	.....	.....	.....
Size Case.....inches	$1\frac{1}{2} \times 1\frac{1}{8}$	$1\frac{1}{2} \times 1\frac{1}{2}$	$2 \times 1\frac{5}{8}$
Diameter Shackle.....inches	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$
Shackle Clearance.....inches	$\frac{9}{16}$	$\frac{13}{16}$	$\frac{15}{16}$
Weight per Dozen.....pounds	$2\frac{1}{4}$	5	$7\frac{1}{2}$

Corbin Extruded Brass Padlocks Pin-Tumbler Mechanism

Made from a solid block of extruded brass, bored out to receive mechanism.



No. 2879A

Heavy wrought hardened steel shackle, chrome plated finish.

Two brass milled keys to each lock. No two locks are alike.

Packed 1 in a box.

No.	Each	Size Case Inches	Wt. Lb. per Doz.
2879A	$1 \times 1\frac{5}{16}$	$2\frac{1}{8}$
2880A	$1\frac{3}{8} \times 1\frac{1}{4}$	4
2881A	$1\frac{1}{2} \times 1\frac{3}{8}$	$5\frac{1}{2}$
2882A	$1\frac{3}{4} \times 1\frac{1}{2}$	$8\frac{5}{8}$
2883A	$2 \times 1\frac{1}{2}$	$10\frac{3}{8}$

Junkunc American Cylinder Key Padlocks



Will withstand 5000 pounds pressure. Has solid steel hardened case; no outside pins or rivets. Special alloy steel shackle, $\frac{7}{16}$ inch thick. Cannot be cut with files, hacksaws, etc.

Ten brass blade tumbler cylinder, actuating from both sides of key, positive action, full security of cylinder maintained at all times.

Each lock furnished with 3 keys. Keyed alike at no extra charge.

Packed 3 to a box.

Weight each, 1 pound.

Style.....	H	HH
Per Dozen.....	\$36.00	39.00
Inside Length.....in.	$1\frac{1}{16}$	2

Junkunc American Cylinder Key Ball Padlocks

Has solid brass case; no outside pins or rivets. Special alloy steel shackle. Cannot be cut with files, etc.

Ten brass blade tumbler cylinder, actuating from both sides of key, positive action, full security of cylinder maintained at all times.

Tensile strength of shackle not weakened by sharp V grooves, or cuts in shackle, but metal merely pressed out to fit the hardened steel ball.

Each lock furnished with 3 keys.

Style.....	L	LA	K
Per Dozen.....	\$27.00	30.00	30.00
Case.....in.	$1\frac{5}{8}$	$1\frac{5}{8}$	$1\frac{3}{4}$
Shackle Lgth.....in.	$1\frac{1}{16}$	2	1
Shackle Thick.....in.	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{3}{8}$
No. in Box.....	6	4	6
Weight Each.....oz.	8	9	$9\frac{1}{2}$

Hansl Sturdy Brass Padlocks



Used for RR switches, equipment boxes, etc.

Furnished complete with two keys; additional keys available upon request. Also available keyed alike.

Furnished with or without chains.

When ordering, specify if wanted keyed alike and if chain is desired.

No.....	Finished			Rough Finished		
	4	5	6	4	5	6
Per Dozen.....	\$23.40	24.60	31.20	21.60	22.80	29.40
Size.....inches	$1\frac{3}{4}$	$2\frac{1}{8}$	$2\frac{1}{2}$	$1\frac{3}{4}$	$2\frac{1}{8}$	$2\frac{1}{2}$
Weight, pounds	$\frac{1}{2}$	$\frac{1}{2}$	1	$\frac{1}{2}$	$\frac{1}{2}$	$1\frac{1}{16}$

No. 04831B Eagle Padlocks

Pin-Tumbler Mechanism



Size, $1\frac{5}{8} \times \frac{1}{2}$ inches.
Rustless alloy case, gray lacquer finish; nickel-plated steel shackle, case hardened, $\frac{13}{16}$ -inch opening, $\frac{1}{4}$ -inch diameter; $\frac{1}{4}$ inches in height. Self-locking. Spring shackle.

Has five pin-tumblers. Furnished with two No. 11945B milled brass keys; 144 regular changes.

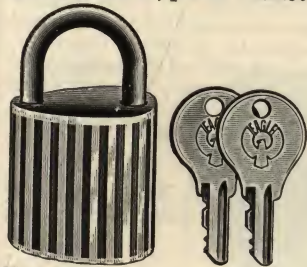
Packed 12 locks in a box. Weight per dozen, $5\frac{3}{4}$ pounds.
No. 04831B.....per dozen

No. 4650 Eagle Padlocks

Disc Tumbler—Self-Locking

Size, $1\frac{1}{2} \times 1\frac{1}{2}$ inches

Solid rustless alloy case, gray lacquered finish. Steel spring shackle $\frac{1}{4}$ -inch diameter, nickel plated. Swivel type steel hook bolt prevents lock from being jarred open.



Distance from top of case to inside of shackle, $\frac{3}{4}$ in.

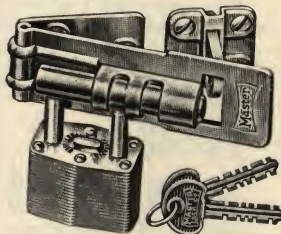
Key blank No. 0750. Has 2 brass milled keys per lock.

Has 228 regular changes; master-keyed with 228 changes at extra charge.

Packed 1 dozen in a box. Weight per dozen, $4\frac{1}{8}$ lb.

No. 4650.....per dozen
No. 4650KA, Keyed Alike.....per dozen

No. 450 Master Laminated Steel Hasplocks



Locking unit combines powerful Master safety hasp, heavy slide bolt and $\frac{13}{16}$ -inch Master laminated steel padlock. Padlock permanently attached; cannot be lost or stolen or dropped in mud or snow.

Heavy-gage steel 4-inch hasp, ribbed for maximum strength, with powerful pinless hinge and recessed, reinforced

screw seatings. All screws locked-in when hasp is closed. Entire unit cadmium rustproofed. Has 60 key changes. Keyed alike at no extra charge.

Unit package, 1; carton, 6.

Weight per dozen, 12 pounds.

No. 450.....per dozen \$18.00

No. 500 Master Multi-Spring Padlocks



Padlock has a $\frac{13}{16}$ -inch laminated steel case; hardened steel shackle, $\frac{13}{16}$ -inch vertical clearance, $\frac{5}{16}$ -inch diameter; double spring security; 2 corrugated embossed steel keys; 60 actual key changes.

Keyed alike, no extra charge; add suffix KA to number.

Master-keyed, no extra charge except for 70 cents, cost of master-key; add suffix MK to number.

Cadmium rustproofed throughout.

Individually packed in window carton; 6 in display carton. Weight per dozen, 6 pounds.

No. 500.....per dozen \$7.80
No. 500C, with 9-Inch Chain Attached.....per dozen 10.80

No. 1 Master Steel Secret Service Padlocks

Brass Cylinder, Pin-Tumbler Mechanism



Size, $1\frac{3}{4}$ inches. Laminated wedge riveted steel case. Hardened steel shackle; vertical clearance, $\frac{13}{16}$ inch; diameter, $\frac{5}{16}$ inch. Sturdy solid brass locking lever. Steel jacketed pilfering protector. Heavy brass cylinder and operating cam. Shackle imbeds itself deeply into case. Has two nickel silver embossed keys. Key changes are practically unlimited. Cadmium plated.

Keyed alike, no extra charge; add suffix KA to number. Master-keyed, \$4.80 extra per dozen, plus 70 cents for master-key; add suffix MK to number.

Individually packed; 6 to display carton.

Weight per dozen, $7\frac{3}{4}$ pounds.

No. 1.....per dozen \$18.00
No. 1C, with 9-Inch Chain Attached.....per dozen 21.00

No. 3 Master Steel Secret Service Padlocks

Brass Cylinder, Pin-Tumbler Mechanism



Size, $1\frac{1}{2}$ inches. Laminated steel case. The shackle is made of hardened steel; $\frac{3}{4}$ -inch vertical clearance; $\frac{5}{16}$ -inch diameter.

Solid brass cylinder, solid brass locking lever; steel pilfering protector.

Has two embossed nickel silver keys; key changes practically unlimited. Cadmium plated.

Keyed alike, no extra charge; add suffix KA to number.

Master-keyed, \$4.80 extra per dozen, plus 70 cents for master-key; add suffix MK to number.

Individually packed; 6 in a display carton.

Weight per dozen, 6 pounds.

No. 3.....per dozen \$15.00
No. 3C, with 9-Inch Chain Attached.....per dozen 18.00

No. 5 Master Steel Secret Service Padlocks

Brass Cylinder, Pin-Tumbler Mechanism



Has a 2-inch laminated steel case. Hardened steel shackle, $\frac{3}{8}$ -inch in diameter, 1-inch inside vertical clearance. Steel pilfering protector; rustproofed with pure cadmium. Solid brass cylinder, nickel silver pin tumbler security.

Has 2 embossed nickel silver keys; key changes practically unlimited.

Keyed alike, no extra charge; add suffix KA to number.

Master-keyed, \$4.80 extra per dozen plus 70 cents for master-key; add suffix MK to number. Individually packed, 6 to a display carton. Weight per dozen, $11\frac{1}{2}$ pounds.

No. 5.....per dozen \$21.00
No. 5C, with 9-Inch Chain Attached.....per dozen 24.00

No. 7 Master Steel Secret Service Padlocks

Brass Cylinder—Pin-Tumbler Mechanism



Has a laminated steel case, $1\frac{1}{16}$ inches wide. Shackle is made of hardened steel; $\frac{5}{16}$ -inch vertical clearance; $\frac{5}{16}$ -inch diameter.

Equipped with brass locking lever. Steel pilfering protector prevents tampering through keyway.

Furnished with 2 embossed nickel silver keys. Up to 750 different key changes.

Cadmium rustproofed inside and out.

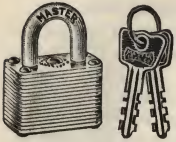
Keyed alike, no extra charge; add suffix KA to number.

Master-keyed, \$4.80 extra per dozen plus 70 cents for master key; add suffix MK to number.

Individually packed, 6 to a carton.

Weight per dozen, 3 pounds.

No. 7.....per dozen \$12.00
No. 7C, with 9-Inch Chain Attached.....per dozen 15.00

No. 22 Master Strong Boy Padlocks

This padlock has a 1½-inch laminated steel case; cadmium rustproofed.

The shackle is made of high carbon steel; 5/8-inch inside vertical clearance; ¼-inch diameter.

Warded security.

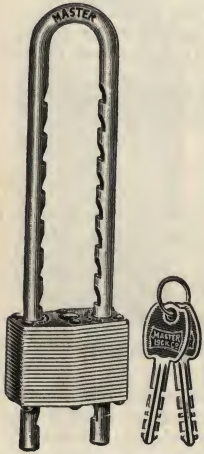
Has 2 embossed nickel-plated corrugated steel keys; 40 different key changes.

Can be keyed alike at no extra charge; add suffix KA to No. Can be master-keyed at no extra charge except for 70 cents, cost of master-key; add suffix MK to No.

Individually packed, 1 dozen to a display carton.

Weight per dozen, 4 pounds.

No. 22.....per dozen \$5.40

No. 517 Master Laminated Bicycle Locks

Size, 1¾ inches.

Laminated steel case, brass lever; rust-proofed throughout.

Adjustable and removable 7-inch steel shackle; diameter, 5/32 inch.

Vertical clearance of shackle, 2½ to 5¾ inches.

Furnished with two corrugated embossed steel keys, 60 key changes.

Packed individually, 6 to a carton.

Weight per dozen, 9 pounds.

No. 517.....per dozen \$9.40

No. 1517 Master Champ Combination Bike Locks

Strong, double-wall combination bike lock.

Has 1½-inch wrought brass outer case, heavy rustproofed steel inner case.

Adjustable, removable strong steel shackle, rubber coated: maximum clearance—vertical, 4¾ inches, horizontal, 1½ inches; diameter, 5/32 inch.

Patented, automatic double-acting brass locking lever.

Simplified, perfected 3-dial mechanism. Practically unlimited combinations.

Individually boxed, 6 to a colorful display.

Weight per dozen, 7½ pounds.

No. 1517.....Per doz. \$13.00

No. 1500 Master Champ Combination Padlocks

With 1½-inch double wall case, wrought brass over cadmium plated heavy steel. Smooth working, 3-number brass locking mechanism. Simple, sturdy and secure. Free from delicate and troublesome parts.

Self-locking. Double acting, improved locking bar. High manganese steel shackle; diameter, 5/32-inch; vertical clearance, 1½ inch.

Practically unlimited combinations. Master control chart furnished for school installations, etc. Eliminates need for master keys.

Packed individually, 6 to a display.

Weight per dozen, 5 pounds.

No. 1500.....per dozen \$11.40

No. 77 Master Little Giant Padlocks Pin-Tumbler Mechanism

Size, 1½ inches.

Has wedge-riveted embossed steel case; brass cylinder; 4-pin tumbler locking mechanism; self-locking steel swivel shackle, ¼ inch in diameter, with 1½-inch vertical clearance; steel pilfering protector; heavy brass locking lever.

Has 750 key changes. Furnished with 2 nickel silver embossed keys.

Cadmium rustproofed inside and out.

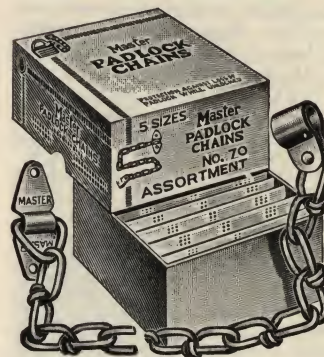
Keyed alike, no extra charge; add suffix KA to number.

Master-keyed, \$4.80 extra per dozen plus 70 cents for master-key; add suffix MK to number.

Weight per dozen, 4 pounds.

No. 77.....per dozen \$10.20

No. 77C, with 9-Inch Chain Attached.....per dozen 13.20

No. 70 Master Padlock Chain Assortment

Consists of 12 Padlock Chains, as follows:

- 1 No. 70A
- 3 No. 70B
- 3 No. 70C
- 3 No. 70D
- 2 No. 70E

Each chain has brass collar for riveting around shackle. Special chain holder with threaded nails. Cadmium rust-proofed. Easily attached.

Length, 9 inches.

No. 70A. For round shackles, 7/32-inch in diameter. Fits Master Padlocks Nos. 44, 55, 7, 8, and 105. Packed 12 in a carton, each in individual envelope.

No. 70A.....assortment \$3.00

No. 70B. For round shackles, ¼ inch in diameter. Fits Master Padlocks Nos. 22, 77, and 66. Packed 12 in a carton, each in individual envelope.

No. 70B.....assortment \$3.00

No. 70C. For round shackles, 9/32 inch in diameter. Fits Master Padlocks Nos. 47, 3, 4, 500, and 1500. Packed 12 in a carton, each in individual envelope.

No. 70C.....assortment \$3.00

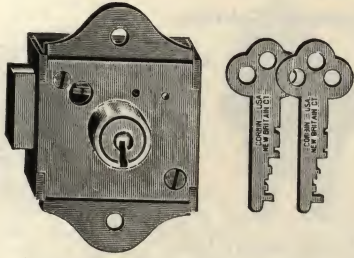
No. 70D. For round shackles, 5/16 inch in diameter. Fits Master Padlocks Nos. 1 and 2. Packed 12 in a carton, each in individual envelope.

No. 70D.....assortment \$3.00

No. 70E. For round shackles, 3/8 inch in diameter. Fits Master Padlocks Nos. 5 and 6. Packed 12 in a carton, each in individual envelope.

No. 70E.....assortment \$3.00

No. 582X Corbin Locker Locks

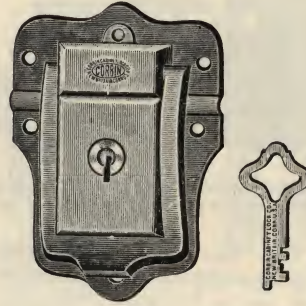


Made of steel.
Brass tube, $\frac{5}{8}$ inch diameter. Brass dead bolt, $\frac{3}{16}$ inch throw, $\frac{3}{4} \times \frac{1}{4}$ inches.
Size, $1\frac{1}{2} \times 1\frac{5}{8}$ inches. Selvage to center of tube, $\frac{7}{8}$ inch; made regular for $\frac{1}{4}$ -inch metal, also made for $\frac{3}{4}$ -inch metal, at no extra charge; 3 secure levers; 2 flat steel keys

to each lock; No. 4120A key blank; 12 regular key changes; 7770 possible key changes; 1290 master-keyed key changes.
Packed $\frac{1}{2}$ dozen in a box.
Weight per dozen, $3\frac{1}{8}$ pounds.

No. 582X, Cadmium Plated.....each

No. 1835 Corbin General Utility Box Locks



Made of steel, brass plated.

Size, $3\frac{1}{4} \times 2\frac{1}{4}$ inches; 1 secure lever; 1 regular key change.

No. 4140A flat steel key blank to each lock.

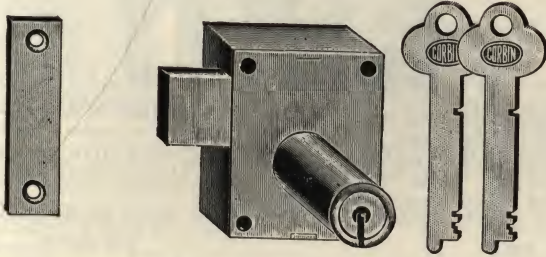
Packed $\frac{1}{2}$ dozen in a box.

Weight per dozen, 3 pounds.

No. 1835, Bright Finish.....each

Corbin Locker Locks

Secure Lever

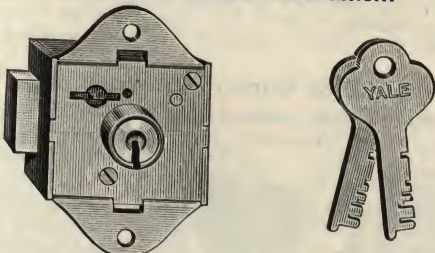


Size $2 \times 1\frac{5}{8}$ inches. Square box; heavy brass bolt, projecting $\frac{3}{4}$ inch, for either right or left hand; 5 secure levers; 52S strike. Made regularly for $\frac{7}{8}$ -inch wood but also made for any thickness without extra charge; $\frac{3}{4}$ inch from selvage to center of cylinder. Two flat steel keys; all different in a dozen; 16800 changes possible or 2394 master-keyed. In sets with master key when desired.

Packed 6 in a box. Weight per dozen, $4\frac{3}{4}$ pounds.

No. 755, Steel.....per dozen
No. 0755, All Brass.....per dozen

**No. R381 $\frac{1}{2}$ L Yale Flat Key Locker Locks
Lever-Tumbler Mechanism**



Regular for $\frac{1}{4}$ -inch metal. Master-keyed locks for $\frac{1}{4}$, $\frac{1}{8}$, $\frac{3}{16}$, $\frac{1}{32}$ or $\frac{5}{16}$ -inch metal, determined by master-keying requirements. For doors of either hand.

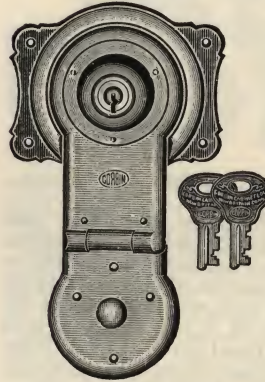
Steel case, $2\frac{5}{8} \times 1\frac{3}{4} \times \frac{9}{16}$ inches, zinc plated; backset, $\frac{7}{8}$ inch; rustless bolt, brass finish; brass nose, $\frac{5}{8}$ -inch diameter, bright finish. Bright or dull chrome nose at extra cost.

Two No. R381 $\frac{1}{2}$ N steel keys, large bow; three brass lever tumblers; 12 changes; keyed alike at no extra cost; 46,650 possible changes or 7770 master-keyed changes, using additional tumblers, at extra cost.

Packed 12 in a box. Weight per dozen, $3\frac{1}{4}$ pounds.

No. R381 $\frac{1}{2}$ L.....per dozen

No. 01269 $\frac{3}{4}$ Corbin Trunk Locks



Made of brass plated wrought steel, with heavy closed guard cup. High center. Attached by rivets.

Size $6\frac{1}{2} \times 3\frac{3}{4}$.

Has 2 latch bolts.

Two lever tumblers.

Two No. 8681 nickel silver milled keys; 6 changes.

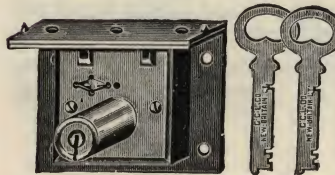
Packed 6 in a box.

Weight per dozen, $7\frac{1}{2}$ pounds.

No. 01269 $\frac{3}{4}$per doz.

No. 0142P Corbin Chest Locks

Double Link, Secure Lever



All brass, dipped and lacquered. Size $2 \times 1\frac{1}{2}$ inches; $\frac{7}{8}$ inch from selvage to center of cylinder. Made regularly for $\frac{3}{4}$ -inch wood, also made for $\frac{1}{2}$ -inch wood without extra charge. Screwed; solid box; three levers;

round link. All different in a dozen. Two unpolished nickel-plated flat steel keys to each lock.

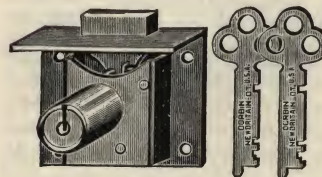
Key changes all alike, alike in sets, all different, all different and master-keyed, and any thickness of wood desired, at special prices.

Packed 6 in a box, with screws. Weight, $1\frac{5}{8}$ pounds per dozen.

No. 0142P.....per dozen

Corbin Drawer Locks

Secure Lever



Tube $\frac{17}{32}$ -inch diameter; Size $1\frac{3}{4} \times 1\frac{1}{2}$ inches; $\frac{3}{4}$ inch from selvage to center of cylinder.

Made regularly for $\frac{7}{8}$ -inch wood; also made for any thickness without extra charge. Broad, heavy bolt.

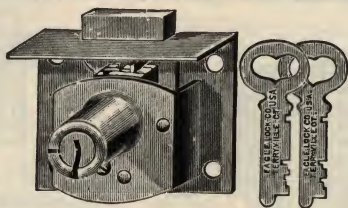
Two levers; two flat steel keys to each lock. All different in a dozen.

Key changes all different (7770 changes possible), all different and master-keyed (1290 changes possible), extra price.

Packed 6 in a box. Weight per dozen, $1\frac{3}{8}$ pounds.

No. 590, Steel, Brass tube.....per dozen
No. 0590, Brass.....per dozen

No. 01901 Eagle Drawer Locks



For $\frac{7}{8}$ -inch wood. Made to order for wood 1, $1\frac{1}{8}$ and $1\frac{3}{8}$ inches thick without extra charge. Other thicknesses at an extra price.

Size, $2x1\frac{5}{8}$ inches; brass bolt, $\frac{27}{32}x\frac{3}{16}$ inches; selvedge, $2x\frac{1}{2}$ inch; tube, $\frac{9}{16}$ inch; selvedge to center of tube, $\frac{1}{8}$ -inch; 3 secure levers.

Key blank No. 1901. Has 2 flat steel keys to each lock; 100 regular changes; 15600 possible changes; 3120 master-keyed changes.

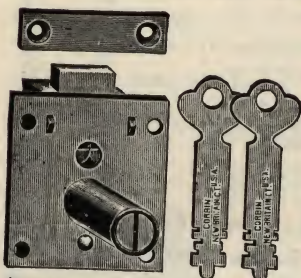
Furnished with more than the regular number of changes or all different and master-keyed at an extra price.

Packed 6 in a box.

Weight per dozen, $2\frac{1}{4}$ pounds.

No. 01901.....per dozen ...

Corbin Drawer Locks



Steel or all brass; size $1\frac{5}{8}x1\frac{1}{8}$ inches; $1\frac{1}{8}$ inches from selvedge to center of cylinder. Made regularly for $\frac{7}{8}$ -inch wood; also made for $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1 and $1\frac{1}{8}$ inch without extra charge. Steel strike 49 $\frac{1}{2}$ S. Brass strike 49S. Broad bolt. 2 levers. All different in a dozen. Made regularly in 12 changes.

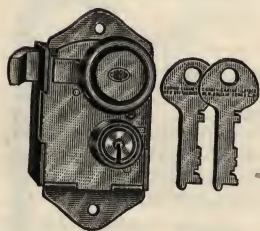
Key changes all different (2500 changes possible), all different and master-keyed (465 changes possible), and any thickness of wood desired.

Packed 6 in a box, weight dozen $2\frac{1}{8}$ pounds.

No. 699, Steel.....per dozen
No. 0699, All Brass.....per dozen

No. 15630 Corbin Flush Panel Board Locks and Catches

Secure Lever



Made of wrought steel, cadmium plated, for $\frac{1}{8}$ -inch metal.

Regularly furnished right hand; left hand available on request.

Size, $3\frac{5}{16}x1\frac{1}{32}$ inches; backset from edge of bolt when retracted to center of cylinder, $1\frac{3}{4}$ inches; spring latch lip bolt, $\frac{3}{16}$ -inch throw; brass, nickel plated tube $\frac{3}{4}$ -inch in diameter.

Brass forging, nickel plated ring pull operates bolt when unlocked allowing lock to be used as a catch. Latch bolt is not self locking.

Regular key changes, 1; possible key changes, 5. Key blank No. 4741C. Furnished with 2 flat steel nickel plated keys to each lock.

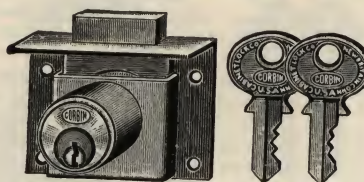
Packed 1 dozen in a box.

Weight per dozen, $3\frac{1}{2}$ pounds.

No. 15630.....per dozen

No. 0665 Corbin All Brass Drawer Locks

Pin-Tumbler Cylinder



Made regularly for $\frac{7}{8}$ -inch wood, can also be made for $\frac{5}{8}$ and $\frac{3}{4}$ -inch wood. Size $2x1\frac{1}{2}$ inches. $\frac{3}{4}$ inch from selvedge to center of cylinder.

Has square selvedge, broad, heavy bolt.

Two brass keys to each lock. No. of changes unlimited.

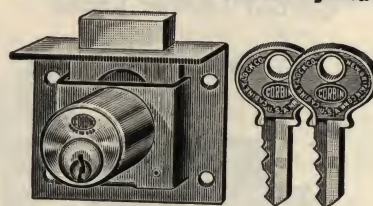
Key blank No. 8632.

Packed 1 in a box.

No. 0665.....per dozen
Weight, per Dozen.....pounds $2\frac{3}{4}$

No. 0666 Corbin Drawer Locks

Ball Bearing, Pin Tumbler Cylinder



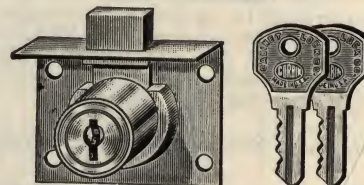
Brass lock, $2x1\frac{5}{8}$ inches; square selvedge; broad, heavy bolt; $\frac{7}{8}$ inch from selvedge to center of cylinder; $\frac{7}{8}$ -inch cylinder. Two nickel silver keys; no 2 locks alike; changes unlimited. Made for $\frac{7}{8}$ -inch wood but also made for $\frac{3}{4}$ -inch wood without extra charge.

Packed 1 lock in a box. Weight per dozen, $2\frac{7}{8}$ pounds.

No. 0666.....per dozen

No. 02065 Corbin Drawer Locks

Disc-Tumbler



Regularly furnished for $\frac{7}{8}$ -inch wood.

Brass case, size, $2x1\frac{1}{8}$ inches; drop, $\frac{3}{4}$ inch. Heavy brass bolt, $\frac{5}{8}x\frac{3}{16}$ inches, $\frac{5}{16}$ -inch throw. Cast cylinder, $\frac{7}{8}$ -inch diameter; square selvedge. Five disc-tumblers; two No. 5865BV brass nickel-plated keys; 200 key changes.

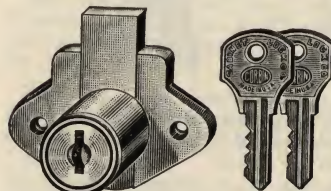
Key changes all alike; alike in sets, at special prices.

Packed 6 in a box with $\frac{3}{4}$ "-6 flat head screws. Weight per dozen, $2\frac{7}{8}$ pounds.

No. 02065.....per dozen

No. 02066 Corbin Drawer Locks

Back plate is steel, brass plated. Die cast brass-plated cylinder, $\frac{7}{8}$ inch diameter. Steel brass-plated dead bolt, $1\frac{1}{2}$ inch throw, $\frac{5}{8}x\frac{3}{16}$ inch.



Size, $2x1\frac{1}{8}$ inches. Selvedge to center of cylinder, $\frac{3}{4}$ inch; made regular for wood, $\frac{7}{8}$ inch; also made for wood, $\frac{3}{4}$ and $1\frac{1}{8}$ inches, at no extra charge. Furnished with 2 brass nickel-plated

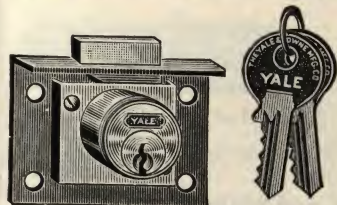
keys for each lock; 1 key each when locks are alike; No. 8658BV key blank; 200 regular key changes; 700 possible key changes; 700 master-keyed key changes; 5 disc tumblers.

Packed 6 in a box with $\frac{3}{4}$ -inch screws.

Weight per dozen, $3\frac{1}{8}$ pounds.

No. 02066.....each

No. 5591 Yale Drawer and Cupboard Locks



Three way application: changed for drawer lock or for right-hand or left-hand cupboard lock by releasing catch and rotating cylinder. Reg. for $\frac{7}{8}$ -in. wood; for $1\frac{1}{8}$ -inch wood to order, at no extra cost.

Size, $1\frac{1}{2} \times 2$ inches; diameter cylinder, $\frac{1}{2}$ inch; backset as cupboard lock, $\frac{15}{16}$ inch; drop as drawer lock (distance from edge of selvage to center of cylinder), $\frac{13}{16}$ inch; four pin-tumbler 1200 changes; two No. 10 $\frac{1}{2}$ keys; keyed alike; extra charge for less than 144 locks; can be master keyed at extra charge.

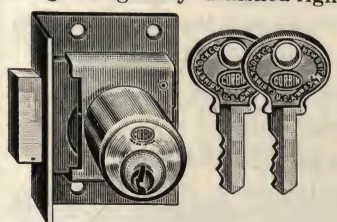
Packed 6 in a carton with five flat head $\frac{1}{2}$ -inch screws.

Weight per dozen, 3 $\frac{1}{2}$ pounds.

No. 5591	Dead Bolt	Spring Bolt
Throw.....inches	$\frac{5}{16}$	$\frac{3}{32}$

No. 0370B Corbin Cupboard Locks

For $\frac{7}{8}$ -inch wood. Made for $\frac{3}{4}$ -inch wood at no extra charge. Regularly furnished right hand, left when specified.



All brass. Size, $2 \times 1\frac{5}{8}$ inches. Selvage to center of cylinder, 1 inch. Size, $2 \times \frac{3}{8}$ inches. Dead bolt, $\frac{7}{8} \times \frac{1}{2}$ inches, $\frac{5}{16}$ inch throw. Cylinder is $\frac{7}{8}$ inches in diameter.

Two No. 8632 brass keys; 4000 changes. Locks keyed alike furnished with one key. Additional

charge for locks keyed alike in quantities of less than 12 dozen. Master keyed at an extra charge.

Furnished with No. 7S brass strike at additional charge.

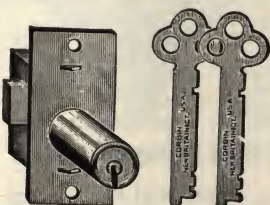
Packed 1 in box with screws.

Weight per dozen, 3 pounds.

No. 0370B.....per dozen

No. 0749 Corbin All Brass Wardrobe Locks

Secure Lever



Regularly furnished for $\frac{7}{8}$ -inch wood. Also made for $\frac{3}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, 1, and $1\frac{3}{8}$ -inch wood without extra charge.

Furnished at special prices for any thickness of wood desired.

Size, $1\frac{7}{8} \times \frac{7}{8}$ inches.

Solid box; brass bolt that shoots right and left; two secure levers.

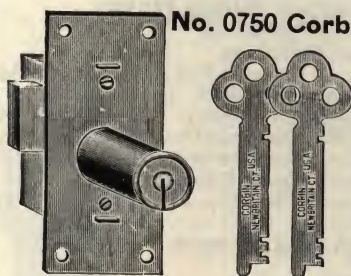
Two flat steel keys to each lock. All different in a dozen. Key changes all different (1290 changes possible); all different and master-keyed (210 changes possible).

Packed 6 in a box, with screws. Weight per dozen, $1\frac{1}{8}$ pounds.

No. 0749.....per dozen

No. 0750 Corbin Wardrobe Locks

Secure Lever



Size $2\frac{3}{4} \times 1\frac{1}{4}$ inches.

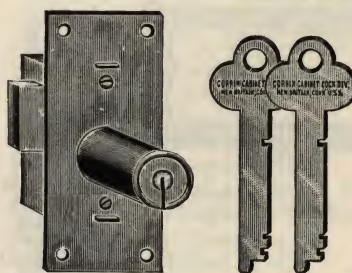
Made for wood $\frac{7}{8}$, 1, and $1\frac{1}{8}$ inches. Selvage to center of tube, $\frac{5}{8}$ inch. Tube, $\frac{5}{8}$ inch in diameter. Brass dead bolt $\frac{5}{16}$ -inch, throw $\frac{1}{16} \times \frac{3}{32}$ inch. For use on either right or left-hand door. With 2 levers and 2 flat steel keys.

Key blank No. 4127B. No. 51S strike furnished when ordered at extra cost. Has 12 regular key changes. Key changes all different, 7770 possible, master keyed, 1290 changes possible, and any thickness of wood for quantities less than 12 dozen, furnished at extra charge. Packed 6 in a box with $\frac{5}{8}$ -inch-4 screws. Weight per dozen, $2\frac{1}{2}$ pounds.

No. 0750, All Brass.....per dozen

Corbin Wardrobe Locks

Secure Lever



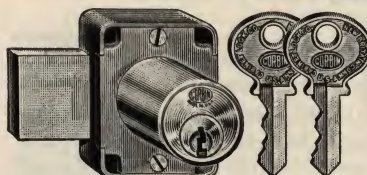
Size, $2\frac{3}{4} \times 1\frac{1}{4}$ in. Cylinders 3 lengths in each dozen for $\frac{7}{8}$, 1 and $1\frac{1}{8}$ -in. wood; solid box; screwed; broad heavy brass bolt shoots right and left; 2 secure levers; 2 flat steel keys. Key changes all different (7770 changes possible); all different and master-keyed (1290

changes possible); and any thickness wood desired—special price. Packed 6 in box. Weight per dozen, $2\frac{1}{2}$ lb.

No. 750, Steel, All Keys Alike.....per dozen

No. 750, Steel, All Keys Different.....per dozen

No. 0737 Corbin All Brass Wardrobe Locks



Pin tumbler cylinder. For wood doors, $\frac{7}{8}$ -inch thick; also available for $\frac{5}{8}$ or $\frac{3}{4}$ -inch doors at no extra charge.

Size, $1\frac{5}{8} \times 1\frac{1}{4}$ in. Cylinder, $\frac{7}{8}$ -in. diameter. Selvage to center of

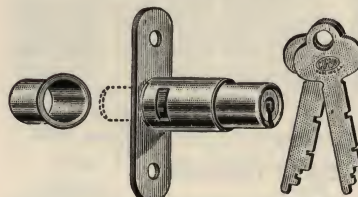
cylinder, $\frac{5}{8}$ in. Dead bolt, $\frac{3}{4}$ -in. throw, $\frac{7}{8} \times \frac{3}{16}$ in.; shoots right and left for either hand door. No. 51S strike furnished when ordered, at extra cost.

Key changes: $\frac{1}{2}$ -inch wood, 270; $\frac{5}{8}$ -inch wood, 1200; $\frac{3}{4}$ -inch wood and over, 4000. Key blank, Nos. 5862, 8632 or 8618 for $\frac{1}{2}$, $\frac{5}{8}$ or $\frac{3}{4}$ -inch or over wood respectively. Furnished with two nickel silver keys to each lock; one key each when locks are alike. Can be keyed alike or masterkeyed; also interkeyed. Packed 1 lock in a box, with screws.

No. 0737, Weight per Dozen, $3\frac{1}{2}$ Lbs.....each

No. 02285 Corbin Sliding Door Locks

Warded Mechanism



For $\frac{7}{8}$ -inch wood; can also be supplied for $1\frac{1}{8}$ -inch wood at no extra charge.

Made of brass. Size $2 \times \frac{5}{8}$ inches. Diameter tube, $\frac{5}{16}$ inch. Diameter bolt, $\frac{1}{32}$ inch; throw, $\frac{1}{16}$ inch. Two flat steel keys;

No. 4773 key blank; six changes. Keyed alike at no extra charge. Furnished with No. 02290S brass cup strike.

Push bolt type; to lock, push end of cylinder; to unlock, use key.

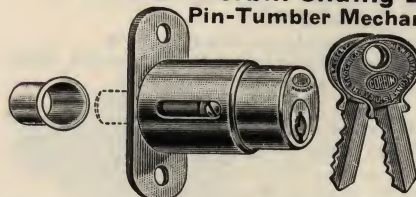
Packed 6 in a box.

Weight per dozen, $1\frac{1}{4}$ pounds.

No. 02285, Burnished Brass.....per dozen

No. 02291 Corbin Sliding Door Locks

Pin-Tumbler Mechanism



For $\frac{7}{8}$ -inch wood; can also be supplied for 1 or $1\frac{1}{8}$ -inch wood at no extra charge.

Made of brass. Size 2×1 inches.

Diameter cylinder 1 inch. Diameter bolt, $\frac{1}{32}$ inch; throw, $\frac{1}{16}$ inch. Two brass keys; No. 8618 key blank; 4000 changes. Keyed alike or all different at no extra charge. Furnished with No. 02290S brass cup strike.

Push bolt type; to lock, push end of cylinder; to unlock, use key.

Packed 6 in a box. Weight per dozen, $3\frac{5}{8}$ pounds.

No. 02291, Brass.....per dozen

No. 1915 $\frac{1}{4}$ Corbin Card Holders
Wrought Brass

Lacquer finish. Packed 3 dozen in box, without pins or screws. Furnished with pins or screws at additional price.

No.	Buffed	Brass Dipped
No. 1915 $\frac{1}{4}$	1915 $\frac{1}{4}$	1915 $\frac{1}{4}$ H
Per Gross	\$10.67	7.12
Gage of Metal	.028	.028
Size Overall	3 $\frac{3}{16}$ x1 $\frac{11}{16}$ inches	3 $\frac{3}{16}$ x1 $\frac{11}{16}$ inches
Card Space	2 $\frac{13}{16}$ x1 $\frac{1}{4}$ inches	2 $\frac{13}{16}$ x1 $\frac{1}{4}$ inches
Weight Gross	3 $\frac{1}{4}$ pounds	3 $\frac{1}{4}$ pounds

No. 1912 $\frac{1}{4}$ Card Holders

Size holder, 2 $\frac{1}{2}$ x1 $\frac{1}{4}$ inches.
Card space, 1 $\frac{1}{16}$ x1 inches.
Packed 3 dozen in a box.
Weight per gross, 1 $\frac{5}{8}$ pounds.

No. 1912 $\frac{1}{4}$, Brass, Buffed and Lacquered.....gross
No. 1912 $\frac{1}{4}$ H, Brass, Dipped, Lacquered.....gross

Corbin Card Holders

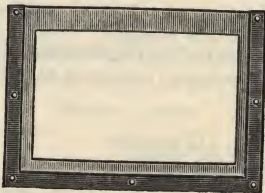
Overall size, 3x1 $\frac{1}{4}$ inches;
card space, 2 $\frac{1}{8}$ x1 inches.
Packed 3 dozen in a box
without pins.

No.	Steel Bright Fin.	Brass Buffed, Lacq.	Brass Dipped, Lacq.
No. 1935A	1935A	1935 $\frac{1}{4}$	1935 $\frac{1}{4}$ H
Gage of Metal	.035	.028	.022
Weight per Gross	3 pounds	2 $\frac{1}{8}$ pounds	2 $\frac{3}{4}$ pounds

Corbin Card Holders
Brass

Gage of metal, .028.
Overall size, 5 $\frac{1}{8}$ x2 $\frac{1}{4}$ inches.
Card space, 4 $\frac{1}{2}$ x1 $\frac{7}{8}$ inches.
Packed 3 dozen in a box without pins or screws.
Weight per gross, 4 $\frac{1}{4}$ pounds.

No. 1894 $\frac{1}{4}$, Buffed and Lacquered.....per dozen
No. 1894 $\frac{1}{4}$ H, Dipped and Lacquered.....per dozen

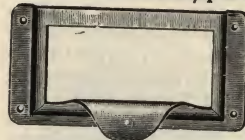
Corbin Card Holders

Overall size, 5 $\frac{1}{2}$ x3 $\frac{7}{8}$ inches.
Card space, 4 $\frac{3}{4}$ x3 $\frac{3}{4}$ inches.
Packed 3 dozen in a box without pins or screws.
No. 1923 $\frac{1}{4}$ H. Made of brass, dipped and lacquered. Gage of metal, .032. Weight per gross, 12 $\frac{3}{4}$ pounds.
No. 1923 $\frac{1}{4}$ H.....per dozen
No. 01923 $\frac{1}{4}$. Made of steel, brass plated. Gage of metal, .050. Weight per gross, 18 pounds.
No. 01923 $\frac{1}{4}$per dozen

Corbin Name Plates

Made of wrought brass, dipped and lacquered. Gage of metal, .012.

No.	09	010	011	012
Packed 6 dozen in a box without pins.				
Per Gross				
Overall Size	2x1 $\frac{1}{2}$ inches	2 $\frac{1}{2}$ x1 $\frac{1}{2}$ inches	3x1 $\frac{1}{2}$ inches	3 $\frac{1}{2}$ x1 $\frac{1}{2}$ inches
Card Space	1 $\frac{1}{8}$ x $\frac{1}{16}$ inches	2 $\frac{1}{8}$ x $\frac{1}{16}$ inches	2 $\frac{5}{8}$ x $\frac{1}{16}$ inches	3 $\frac{1}{8}$ x $\frac{1}{16}$ inches
Weight per Gross	$\frac{5}{8}$ pounds	$\frac{3}{4}$ pounds	1 pound	1 $\frac{1}{8}$ pounds

No. 1902 $\frac{1}{4}$ Card Holders and Pulls

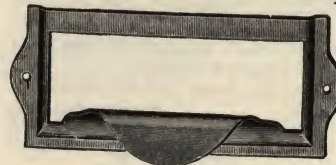
Card space, 1 $\frac{1}{16}$ x1 $\frac{1}{16}$ inches.
Made of brass.
Buffed and lacquered.

Packed 3 dozen in a box; weight per gross, 3 pounds.

No. 1902 $\frac{1}{4}$per gross

No. 1903 $\frac{1}{4}$ Corbin Card Holders and Pulls

Made of brass, buffed and lacquered. Packed 36 in a box.
When ordered, pins or screws furnished at extra cost.



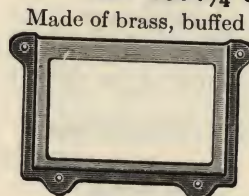
Overall Size.....in. 3 $\frac{9}{16}$ x1 $\frac{1}{2}$
No. 1903 $\frac{1}{4}$, gross
Card Space.....in. 2 $\frac{7}{8}$ x1 $\frac{1}{4}$
Gage of Metal......028
Wt. Gross.lb. 5

No. 1911 $\frac{1}{4}$ Card Holders

Card space, 1 $\frac{1}{16}$ x1 $\frac{1}{8}$ inches.
Packed 3 dozen in a box.
Weight per gross, 1 $\frac{3}{4}$ pounds.

No. 1911 $\frac{1}{4}$, Brass, Buffed and Lacquered.....gross

No. 1911 $\frac{1}{4}$ H, Brass, Dipped, Lacquered.....gross

No. 1914 $\frac{1}{4}$ Corbin Card Holders

Made of brass, buffed and lacquered. Packed 36 in a box.
Pins or screws furnished at extra cost when ordered.

Overall Size.....in. 3 $\frac{13}{16}$ x2 $\frac{1}{2}$
No. 1914 $\frac{1}{4}$per gross
Card Space.....in. 2 $\frac{1}{2}$ x1 $\frac{1}{16}$
Gage of Metal......032
Wt. per Gross.....lb. 4

No. 03000 Corbin Hinge Hasps

Made of brass, dipped and lacquered.
Packed 36 in a box, without screws.



Overall Size.....inches 1 $\frac{13}{16}$ x $\frac{5}{8}$
No. 03000.....per dozen
Hinge Flap.....inches 1 $\frac{1}{2}$ x $\frac{5}{8}$
Slotted Flap.....inches 1 $\frac{1}{16}$ x $\frac{5}{8}$
Gage of Metal......025
Staple Plate Gage Metal... .035
Weight per Dozen.....ounces 2 $\frac{1}{8}$

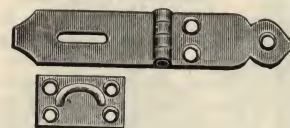
No. 02111 Corbin Box Hinges

Made of brass, dipped and lacquered.
Packed 36 pairs in a box, without screws.

Size Open.....inches 1 $\frac{5}{8}$ x1 $\frac{1}{2}$
No. 02111.....per dozen
Length of Joint.....inches $\frac{9}{16}$
Gage of Metal......022
Weight per Dozen Pairs.....ounces 3

No. 03002 Corbin Hinge Hasps

Made of brass, dipped and lacquered.
Packed 36 in a box, without screws.



Overall Size.....inches 3x $\frac{9}{16}$
No. 03002.....per dozen
Hinge Flap.....inches 1 $\frac{1}{16}$ x $\frac{9}{16}$
Slotted Flap.....inches 1 $\frac{1}{16}$ x $\frac{9}{16}$
Gage of Metal......049
Staple Plate Gage Metal... .035
Weight per Dozen.oz. 7

Corbin Box Hinges

Gage of metal, .049.
Size open, 2 $\frac{1}{8}$ x1 $\frac{1}{2}$ inches.
Length of joint, $\frac{1}{2}$ inch.

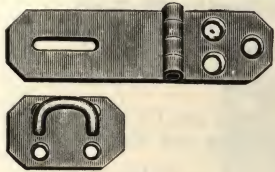
Packed 18 pairs in a box without screws.
Weight per dozen pairs, $\frac{5}{8}$ pound.

No. 2109, Steel, Brass Plated.....per doz. prs.
No. 02109, Brass, Dipped and Lacquered per doz. prs.

Corbin Wrought Hinge Hasps

Brass

Nos. 03004 and 03004 $\frac{1}{4}$



Gage of metal, .049.
Overall size, $2\frac{5}{8} \times \frac{3}{4}$ inches;
hinge flap, $1 \times \frac{3}{4}$ inch; slotted
flap, $1\frac{5}{8} \times \frac{3}{4}$ inches.

Packed 3 dozen in a box with-
out screws.

Weight per dozen, $\frac{5}{8}$ pound.

No. 03004, Dipped and Lacquered.....per dozen
No. 03004 $\frac{1}{4}$, Buffed and Lacquered.....per dozen

Nos. 03005 and 03005 $\frac{1}{4}$

Gage of metal, .049.

Overall size, $3\frac{3}{8} \times \frac{3}{4}$ inches; hinge flap, $1 \times \frac{3}{4}$ inches;
slotted flap, $2\frac{5}{8} \times \frac{3}{4}$ inches.

Packed 3 dozen in a box without screws.

Weight per dozen, $\frac{3}{4}$ pound.

No. 03005, Dipped and Lacquered.....per dozen
No. 03005 $\frac{1}{4}$, Buffed and Lacquered.....per dozen

Corbin Chest Corners

No. 03700 $\frac{1}{4}$

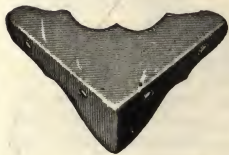


Made of wrought brass.
Size, $1\frac{1}{4} \times 1\frac{1}{4} \times \frac{1}{2}$ inches. Gage of metal,
.025.

Buffed and lacquered.
Packed 3 dozen in a box, without pins
or screws.

Weight per gross, $1\frac{3}{4}$ pounds.
No. 03700 $\frac{1}{4}$per gross

No. 03715 $\frac{1}{4}$



Made of wrought brass.
Size, $1\frac{3}{4} \times 1\frac{3}{4} \times \frac{3}{4}$ inches. Gage of
metal, .025.

Buffed and lacquered.
Packed 3 dozen in a box, without
pins or screws.

Weight per gross, $3\frac{1}{2}$ pounds.
No. 03715 $\frac{1}{4}$per gross

No. 03703 $\frac{1}{4}$



Made of wrought brass.
Size, $1\frac{7}{8} \times 1\frac{7}{8} \times 1\frac{5}{8}$ inches. Gage
of metal, .032.

Buffed and lacquered.
Packed 3 dozen in a box, without
pins or screws.

Weight per gross, $6\frac{5}{8}$ pounds.
No. 03703 $\frac{1}{4}$per gross

No. 3713 $\frac{1}{4}$ Corbin Case Corners



Made of wrought steel; .035 gage metal.
Size, $1\frac{9}{16} \times 1\frac{9}{16} \times \frac{1}{16}$ inches.

Furnished without pins or screws.

Packed 3 dozen in a box.

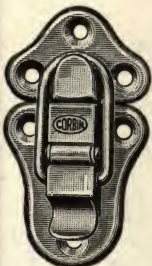
Weight per gross, 4 pounds.

No. 3713 $\frac{1}{4}$, Brass Plated..per dozen

Corbin Suit Case Catches

Steel

Nos. 1771 $\frac{1}{2}$ and 1771 $\frac{3}{4}$



Gage of metal, .032.

Overall size, $2\frac{3}{4} \times 1\frac{1}{2}$ inches.

Packed 6 dozen in a box without screws.

Weight per gross, 8 pound.

No. 1771 $\frac{1}{2}$, Brass Plated..per gross

No. 1771 $\frac{3}{4}$, Nickel Plated..per gross

Nos. 1778 $\frac{1}{2}$ and 1778 $\frac{3}{4}$

Gage of metal, .025.

Overall size, $3\frac{5}{8} \times 1\frac{1}{2}$ inches.

Packed 3 dozen in a box without screws.

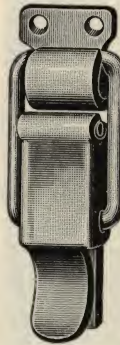
Weight per gross, 12 pounds.

No. 1778 $\frac{1}{2}$, Brass Plated.....per gross

No. 1778 $\frac{3}{4}$, Nickel Plated.....per gross

Corbin Draw Pull Catches

Heavy Duty



Gage of metal, .083.

Overall size, $3\frac{3}{4} \times 1\frac{1}{4}$ inches.

Packed 1 dozen in a box without screws;
3 dozen in a carton.

Weight per dozen, $2\frac{1}{8}$ pounds; No. 015641D,
 $2\frac{1}{4}$ pounds.

No. 15641, Steel.....per dozen

No. 15641C, Steel,
Cadmium Plated.....per dozen

No. 15641N, Steel,
Nickel Plated.....per dozen

No. 015641D, Brass, Dipped and
Lacquered.....per dozen

No. 15641P, Plain Steel, without
Holes for Spot Welding....per dozen

Corbin Draw Pull Catches

Heavy Duty



With locking ear for use with padlock.

Gage of metal, .083.

Overall size, $3\frac{3}{4} \times 1\frac{1}{4}$ inches.

Packed 1 dozen in a box without screws; 3
dozen in a carton.

Weight per dozen, $2\frac{1}{4}$ pounds; No. 015642SD,
 $2\frac{3}{8}$ pounds.

No. 15642S, Steel.....per dozen

No. 15642SC, Steel,
Cadmium Plated.....per dozen

No. 15642SN, Steel,
Nickel Plated.....per dozen

No. 015642SD, Brass, Dipped and
Lacquered.....per dozen

Corbin Draw Pull Catches

Steel



Gage of metal, .065.

Overall size, $1\frac{5}{8} \times 2\frac{1}{4}$ inches.

Packed 1 dozen in an envelope without screws;
3 dozen in a box.

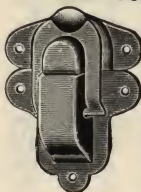
Weight per dozen, 1 pound.

No. 15797.....per dozen

No. 15797C, Cadmium Plated...per dozen

No. 1883 $\frac{1}{2}$ Corbin Suit Case Catches

Steel



Gage of metal, .032.

Overall size, $2 \times 1\frac{1}{16}$ inches.

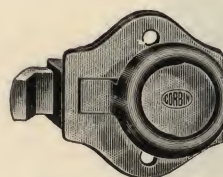
Packed 6 dozen in a box without screws.

Weight per gross, 5 pounds.

No. 1883 $\frac{1}{2}$, Brass Plated..per gross

No. 1883 $\frac{3}{4}$, Nickel Plated..per gross

No. 15631 Corbin Flush Panel Board Catches



Made of wrought steel, cadmium
plated, for $\frac{1}{8}$ -inch metal.

Regularly furnished right hand;
left hand available on request.

Size, $1\frac{1}{16} \times 1\frac{3}{16}$ inches; backset
from edge of bolt when retracted
to center of ring pull, $1\frac{3}{8}$ inches;
spring latch lip bolt, $\frac{3}{16}$ -inch throw.

Brass forging, nickel plated ring pull operates the bolt.

Packed 1 dozen in a box.

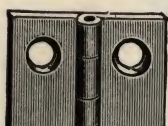
Weight per dozen, 2 pounds.

No. 15631.....per dozen

Narrow Wrought Brass Butts

Packed without screws.

For Four Screws



Lgth. In.	Per Doz. Pairs	Width Open In.	Gage No.	Screw No.	Doz. Pr. In Box	Wt. Box Lb.
1 1/2	1 1/2	.027	0	6	7 1/16
3/4	1 1/16	.033	2	6	1 1/8
1	3/4	.036	2	6	1 3/4
1 1/4	2 3/4	.040	3	6	2 1/2
1 1/2	7/8	.040	4	6	3 1/4

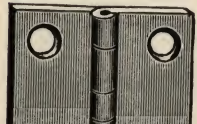
For Six Screws

Lgth. In.	Per Doz. Pairs	Width Open In.	Gage No.	Screw No.	Doz. Pr. In Box	Wt. Box Lb.
1 3/4	1	.042	5	6	4 3/4
2	1 1/32	.045	5	6	5 15/16
2 1/2	1 1/16	.052	6	3	5 1/2
3	1 5/8	.062	8	1	2 7/8

Middle Wrought Brass Butts

Packed without screws.

For Four Screws



Size Lgth. In.	Width Open In.	Gage No.	Screw No.	Doz. Pr. In Box	Wt. Box Lb.
1 1/2	9/16	.027	0	6	1 1/2
3/4	3/4	.033	2	6	1 3/16
1	7/8	.036	3	6	1 7/8
1 1/4	7/8	.040	4	6	2 3/4
1 1/2	1 1/32	.040	4	6	3 3/4

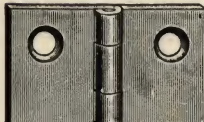
For Six Screws

Size Lgth. In.	Width Open In.	Gage No.	Screw No.	Doz. Pr. In Box	Wt. Box Lb.
1 3/4	1 1/16	.042	5	6	5
2	1 3/16	.045	5	6	6 7/16
2 1/2	1 5/8	.052	6	3	5 7/8
3	1 3/4	.062	8	1	3 1/8

Broad Wrought Brass Butts

Packed without screws.

For Four Screws



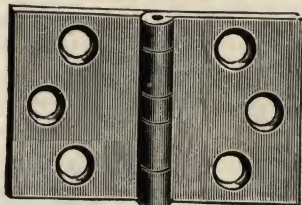
Lgth. In.	Per Doz. Pairs	Width Open In.	Gage No.	Screw No.	Doz. Pr. In Box	Wt. per Box
1 1/2	5/8	.027	0	6	9 1/16
3/4	7/8	.033	3	6	1 3/16
1	1	.036	3	6	2 1/16
1 1/4	1 1/32	.040	4	6	3
1 1/2	1 1/4	.040	4	6	4 3/8

For Six Screws

Lgth. In.	Per Doz. Pairs	Width Open In.	Gage No.	Screw No.	Doz. Pr. In Box	Wt. per Box
1 3/4	1 5/16	.042	5	6	5 3/4
2	1 3/8	.045	5	6	7 1/2
2 1/2	1 3/4	.052	6	3	6 3/8
3	2	.062	8	1	3 3/8

Desk Wrought Brass Butts

For Six Screws

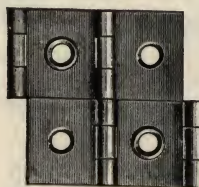


Packed without screws.

Size Length.....inches	3/4	1	1 1/4	1 1/2	2
Width Open.....inches	1 5/16	1 9/16	1 3/4	2	2 15/16
Gage No.....	.041	.044	.045	.050	.062
Screw No.....	3	4	4	5	7
Dozen Pairs in Box.....	6	6	6	6	3
Weight per Box.....lb.	2 1/16	3 7/8	5 5/8	8 1/4	9 3/4

No. 875 Stanley Wrought Steel Double Acting Hinges

For Folding Screens



All screws can be driven without reversing the hinge.

Planished and plated.

Packed 1 dozen pairs in a box with size 5/8x6 FH wood screws.

Width Closed In.	Length Joint In.	No. of Screw Holes	Dozen Pairs in Case	Net Wt. per 100 Dozen Pairs	Case Wt. Lbs.	C—Bright Brass Price per Doz. Pairs
3/4	1 3/4	4	25	180	45	....
1 1/4	2	4	15	370	55	....

No. 1490 Stanley Wrought Steel Ornamental Cabinet Hinges



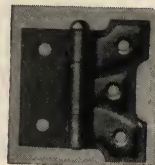
Planished and plated.

When ordering, specify class number, finish, and size.

Packed 12 pairs in a box, with wood screws.

Size.....inches	3/4	1
Width Open.....inches	2 3/16	3 1/16
Size Flat Head Wood Screws.....inches	5/8x4	5/8x5
Weight per Dozen Pairs.....pounds	7/8	1 3/4

No. 2733 McKinney Plated Wrought Steel Half Surface Ornamental Hinges With Loose Pin



Designed for light cabinet work.

Available in all standard finishes.

Packed 1 dozen pairs in a box with screws.

Length of Joint.....inches	1 1/2	2
Gage of Metal.....	.065	.065
Size Screws.....	5/8x5	5/8x7
Dozen Pairs per Carton.....	10	10
Weight per Dozen Pairs.....pounds	1 7/8	3 1/8

No. 2729 McKinney Plated Wrought Steel Full Surface Ornamental Hinges With Tight Pin



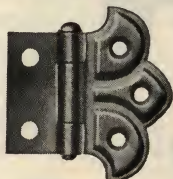
Used in light cabinet work.

Width of the leaves of this hinge permits a pair to be placed opposite on a narrow mullion or hanging strip without staggering.

Packed 1 dozen pairs in a box with screws.

Size.....inches	1 1/2	2
No. 2729, Dull Brass.....per doz. pr.	....	....
No. 2729, Nickel Plated.....per doz. pr.	....	....
Gage Metal.....	.058	.065
Width, Open.....inches	1 7/8	2 3/8
Size Screws.....	5/8x5	5/8x7
Weight per Dozen Pair.....pounds	2 1/8	3 5/16

**No. 2741 McKinney Plated Wrought Steel
Half Mortised Ornamental Hinges
With Loose Pin**



Designed for light cabinet work.
Width of joint, $1\frac{1}{2}$ inches. Gage, .058. Width, open,
 $1\frac{3}{4}$ inches. Size of screws, $\frac{5}{8} \times 5$.
Packed 10 dozen pairs in a carton with screws.
Weight per dozen pairs, $1\frac{7}{8}$ pounds.
No. 2741, Dull Brass.....per dozen pairs
No. 2741, Nickel Plated.....per dozen pairs

**No. 2734 McKinney Plated Wrought Steel
Full Surface Ornamental Hinges
With Tight Pin**



Designed for hanging doors in cup-
boards, bookcases, china closets and
for other light cabinet work.
Made of wrought steel in one size
only. Attached to the surface of the
door and frame in full view when the
door is closed.
Length of joint, $1\frac{1}{2}$ inches. Gage,
.058. Width, open, $2\frac{1}{4}$ inches. Size
screws, $\frac{5}{8} \times 5$.

Packed 10 dozen pairs in a carton with screws.
Weight per dozen pairs, $2\frac{1}{2}$ pounds.
No. 2734, Dull Brass.....per dozen pairs
No. 2734, Nickel Plated.....per dozen pairs

**No. 1475 Stanley Wrought Steel Ornamental
Cabinet Hinges
Fast Pin**



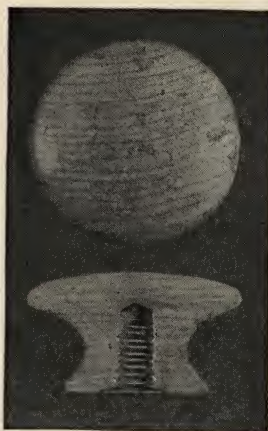
Furnished in all standard finishes.
Packed 1 dozen pairs in a box with oval head wood screws.
Length of Joint.....inches $1\frac{1}{2}$ 2
No. 1475.....per doz. pr.
Width Open.....inches $2\frac{1}{2}$ 3
Length Screw.....inches $\frac{5}{8}$ $\frac{3}{4}$
Screw Gage No..... 5 7
Net Weight per Dozen.....pounds $2\frac{1}{2}$ $3\frac{7}{8}$

Stanley Continuous Hinges



Wrought steel and wrought brass hinges.
Length of knuckles, $\frac{5}{8}$ inch. Size of wood screws, $\frac{1}{2} \times 4$.
Screw holes spaced 2 inches apart, other spacings on order.
Regularly furnished in lengths up to 72 inches, longer
lengths on order.

Packed without screws, unless ordered with screws.
Width Open.....inches $1\frac{1}{16}$ $1\frac{1}{4}$ $1\frac{1}{2}$ 2 $2\frac{1}{2}$
No. 311, Reg. Wt.per ft.
*No. 311 $\frac{1}{4}$ Reg. Wt.per ft.
†No. 0311, Lightwt.per ft.
*†No. 0311 $\frac{1}{4}$, Lightwt.per ft.
Weight per 100 Ft.pounds 22 25 30 50 65
*Wrought brass hinge.
†Made in $1\frac{1}{16}$ -inch width only.



**Style 1 Allen Furniture
Knobs
or Drawer Pulls
Plain Type**

Made of solid maple, birch,
oak, walnut or mahogany.

Knobs supplied unfinished
or stained and varnished and
equipped with screws.

Special shapes and sizes
made to sketch or sample.

Furnished in $\frac{3}{4}$, 1, $1\frac{1}{4}$, $1\frac{1}{2}$,
 $1\frac{3}{4}$ and 2 inch sizes.

No. 4262 Shelby Crescent Drawer Pulls

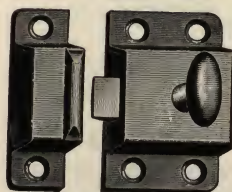


Made of wrought steel.
Dull brass plated.

Packed $\frac{1}{4}$ gross in a
box with screws; 6 gross
in a case.

Weight per gross, $7\frac{1}{2}$
pounds.

Corbin Cupboard Turns



No. 2248 $\frac{1}{2}$ —Wrought Bronze
Size case, $2\frac{1}{8} \times 1\frac{1}{8}$ inches. Size
strike, $2\frac{1}{8} \times \frac{5}{8}$ inches.
Packed 1 doz. in a box with
screws.
Weight per dozen, $2\frac{1}{2}$ pounds.
No. EA2248 $\frac{1}{2}$, Dull Brass
.....per doz.
No. E2248 $\frac{1}{2}$, Nickel Plated
.....per doz.

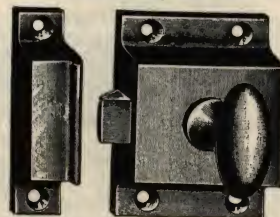
No. 13046—Wrought Steel

Size case, $1\frac{13}{16} \times 1\frac{1}{8}$ inches. Size strike, $1\frac{13}{16} \times \frac{1}{2}$ inches.
Packed 1 dozen in a box with screws.
Weight per dozen, $1\frac{5}{8}$ pounds.
No. EA13046, Dull Brass.....per dozen
No. E13046, Nickel Plated.....per dozen

No. 13048—Wrought Steel

Size case, $2\frac{1}{8} \times 1\frac{1}{8}$ inches. Size strike, $2\frac{1}{8} \times \frac{5}{8}$ inches.
Packed 1 dozen in a box with screws.
Weight per dozen, $2\frac{1}{4}$ pounds.
No. EA13048, Dull Brass.....per dozen
No. E13048, Nickel Plated.....per dozen

No. 530 Ives Cupboard Turns



Made of cast brass, polished.

Size case, $2\frac{1}{8} \times 1\frac{1}{2}$ inches; size strike, $2\frac{1}{8} \times \frac{1}{2}$ inches.

Packed, with screws, 1 dozen in a box.

Weight per dozen, $3\frac{7}{8}$ pounds.

No. 530B4, Dull Brass.....per dozen **\$26.30**

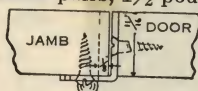
National Semi-Concealed Cabinet Hinges

Made of steel. Jamb leaf, $\frac{1}{2} \times 2\frac{1}{2}$ inches. Length of joint, $1\frac{1}{2}$ inches.

No. 460

Furnished in polished chromium and other standard finishes.

Packed 12 pairs in a box with $\frac{5}{8} \times 5$ screws.
Weight per dozen pairs, $1\frac{1}{2}$ pounds.

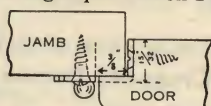


No. 460A

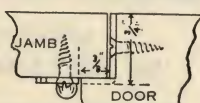
Furnished in polished chromium and other standard finishes.

Packed 12 pairs in a box with $\frac{5}{8} \times 5$ screws.

Width of Rabbet.....inches $1\frac{5}{32}$ $\frac{3}{4}$
Weight per Dozen Pairs.....pounds $1\frac{1}{2}$ $1\frac{3}{4}$



No. 460A $1\frac{5}{32}$



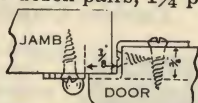
No. 460A $\frac{3}{4}$

No. 460B

Furnished in polished chromium and other standard finishes. Supplied in $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$ and $\frac{3}{4}$ -inch offsets.

Width of rabbet $\frac{3}{8}$ inch. For doors, $\frac{3}{4}$ inch.

Packed 12 pairs in box with $\frac{5}{8} \times 5$ screws.
Weight per dozen pairs, $1\frac{3}{4}$ pounds.



No. 460B $\frac{3}{8}$

Prices furnished upon application.

National Surface Cabinet Hinges

Made of steel. Jamb leaf, $\frac{1}{2} \times 2\frac{1}{2}$ inches. Length of joint, $1\frac{1}{2}$ inches.

No. 460R is for use with doors having a $\frac{3}{8}$ -inch offset.

No. 460S is for use with flush doors.

Furnished in polished chromium and other standard finishes.

No. 460R

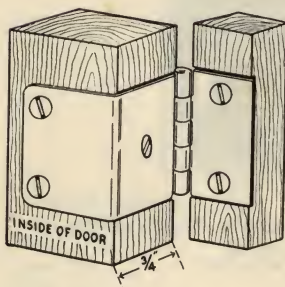
No. 460S

Packed 12 pairs in a box with $\frac{5}{8} \times 5$ screws.

Weight per dozen pairs, $1\frac{1}{2}$ pounds.

Prices furnished upon application.

No. 471 National Semi-Concealed Cabinet Hinges



Made of steel. Length of joint, $1\frac{1}{2}$ inches.

Available for doors $\frac{3}{4}$ or 1 inch thick; specify when ordering.

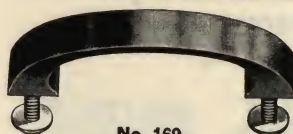
Furnished in prime coat and other standard finishes.

Packed 12 pairs in a box with $\frac{5}{8} \times 6$ screws.

Weight per dozen pairs, 2 pounds.

Prices furnished upon application.

Colonial Drawer Pulls



No. 169

Forged in brass.

Packed 1 dozen in a box with screws.

No. 169 Series

Length overall, $2\frac{3}{4}$ inches. Center to center, $2\frac{1}{4}$ inches.
Shipping weight per dozen, $1\frac{1}{2}$ pounds.

No. 169P, Polished Brass.....per dozen \$5.40

No. 169C, Polished Chrome.....per dozen 5.80

No. 169DC, Dull Chrome.....per dozen 5.80

No. 165 Series

Length overall, 4 inches. Center to center, $3\frac{1}{2}$ inches.
Shipping weight per dozen, $1\frac{1}{4}$ pounds.

No. 165P, Polished Brass.....per dozen \$7.20

No. 165C, Polished Chrome.....per dozen 7.60

No. 165DC, Dull Chrome.....per dozen 7.60

No. 170 Colonial Drawer Pulls



Forged from extruded brass rod stock.

Overall length, $4\frac{1}{2}$ inches; center to center, $3\frac{1}{2}$ inches.

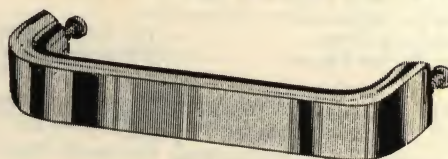
No. 170C, Polished Chrome Finish.....per dozen

No. 170DC, Dull Chrome Finish.....per dozen

No. 170P, Polished Brass Finish.....per dozen

No. 170DB, Dull Brass Finish.....per dozen

Frost Wrought Brass Drawer Pulls



Heavy and solid. Conservative design. Finished by hand.

Packed 12 to carton, complete with washer head screws.

No.	95	97	98
Dull or Pol. Brass.....per dozen	\$5.40	\$6.50	\$7.90
Dull or Pol. Nickel.....per dozen	6.50	7.60	9.00
Dull or Pol. Chrome.....per dozen	6.50	7.60	9.00
Size.....inches	2	3	4
Approx. Weight, per Dozen.....pounds	$2\frac{1}{4}$	$2\frac{1}{2}$	$3\frac{1}{4}$

No. 530 Peabody Die Cast Drawer Pulls



Size, $\frac{1}{2} \times 4\frac{1}{16}$ inches; projection, $\frac{1}{8}$ inch; 3-inch screw centers.

Packed individually in cellophane bags with cadmium plated screws; 1 doz. in a box.

Weight per dozen, 22 ounces.	
No. 530xUS4, Dull Brass Finish.....each	
No. 530xUS10, Dull Bronze Finish.....each	
No. 530xUS26, Chromium Plated Finish.....each	

No. 3367 $\frac{1}{2}$ Corbin Cast Iron Drawer Pulls



Size, $\frac{7}{8} \times 4$ in. Projection, $1\frac{1}{4}$ in. Clearance, $\frac{1}{16}$ in. Center to center of screws, $3\frac{3}{8}$ in. Fastens with machine screws from inside. One dozen in box with screws and washers for wood up to $1\frac{1}{8}$ -in.

No. EA3367 $\frac{1}{2}$, Dull Brass.....per dozen	
No. E3367 $\frac{1}{2}$, Nickel Plated.....per dozen	

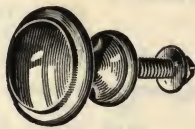
No. 137 Colonial Drawer Knobs



Forged from extruded brass rod stock.
Diameter, $1\frac{1}{16}$ inches.

No. 137C, Polished Chrome.....per doz.
No. 137DC, Dull Chrome.....per doz.
No. 137P, Polished Brass.....per doz.
No. 137DB, Dull Brass.....per doz.

No. 138 Series Colonial Drawer Knobs



Forged in brass. Diameter, $1\frac{1}{16}$ inches.

Packed 1 dozen in a box with screws.

Shipping weight per dozen, $1\frac{1}{4}$ pounds.

No. 138P, Polished Brass.....per dozen \$5.00
No. 138DB, Dull Brass.....per dozen 5.00
No. 138DBZ, Dull Bronze.....per dozen 5.00
No. 138C, Polished Chrome.....per dozen 4.50
No. 138DC, Dull Chrome.....per dozen 4.50

Frost Wrought Brass Knobs

The cap is made from heavy sheet and the shank from a solid turning, strongly joined.

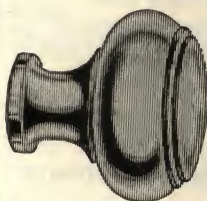
Points on the bottom to be drawn into the wood are integral parts of the shank.

Packed 12 in a carton with screws.



No.	PER DOZEN		
	71	72	73
Dull Brass.....			
Pol. Brass.....			
Ant. Copper.....			
Dead Black.....			
Dull Bronze.....			
Dull Nickel.....			
Pol. Nickel.....			
Ant. Sand Brass...			
Chrome.....			
Size.....in.	$\frac{3}{4}$	1	$1\frac{1}{4}$
Wt. per Doz....oz.	7	11	$21\frac{1}{2}$

Frost Wrought Brass Cabinet Knobs



Cap is made from heavy sheet, shank from a solid turning, strongly joined. Points to be drawn into wood, are integral parts of shank, not separate washers.

Rings are cut into metal.

Packed 12 to a carton, with washer head screws.

No.	71T	72T	73T
Dull or Pol. Brass.....per dozen	\$3.30	\$3.60	\$4.50
Dull or Pol. Bronze.....per dozen	3.50	4.10	5.20
Dead Black.....per dozen	3.30	3.60	4.50
Dull or Pol. Nickel.....per dozen	4.60	4.90	5.80
Dull or Pol. Chrome.....per dozen	4.60	4.90	5.80
Diameter.....inches	$\frac{3}{4}$	1	$1\frac{1}{4}$
Approximate Weight, per Doz.....oz.	7	11	$21\frac{1}{2}$

No. 1020 Corbin Flush Rings



Made of cast brass or bronze, polished.

Packed 36 in a box, with screws.

Size.....inches	1	$1\frac{1}{4}$	$1\frac{1}{2}$
No. 1020 per dozen			
Size Plate...inches	$1\frac{1}{16} \times 1$	$1\frac{1}{8} \times 1\frac{1}{4}$	$1\frac{1}{8} \times 1\frac{1}{2}$

No. N61-380 National Tutch Latches



For use on wood kitchen cabinets.
Opens cabinet door automatically, with a gentle touch of finger, arm or elbow.

Mounting holes are elongated for

easy application to cabinet wall or on top or bottom of cabinet shelf.

Made of steel, with a rust-resistant finish.

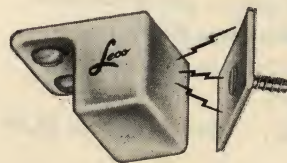
Packed in individual envelopes, 12 to a carton; 12 dozen to a case. Complete with strike and necessary screws.

Shipping weight per carton, 2 pounds; per case of 12 dozen, 28 pounds.

No. N61-380.....each \$.70

Leco-Latches

Magnetic Type



Operates on both wood and metal cupboard doors.

A complete unit consisting of a small but powerful permanent magnet, small plate of special steel and necessary screws.

Has no moving parts.

Permanent Alnico magnet mounted in die casting attaches to door.

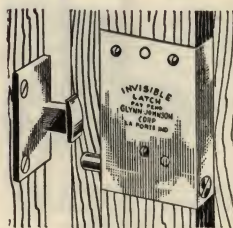
Chrome dip finish.

Packed 6 to a package, 24 packages or 1 gross to shipping carton.

Shipping weight per gross carton, 35 pounds.

Complete.....each \$.89

G-J Invisible Latches



For secret doors and panels. Holds doors securely without showing any hardware to mar appearance. Operates in any position, right or left hand, top or bottom. Jam proof construction. Unaffected by shrinkage or warpage as long as door can be opened or closed. Operation simple, a light push locks it, a hard push releases door. Made in cast bronze or brass.

Packed with metal template to simplify installation. Packed 6 in a box; weight, Type A, 2 pounds; Type B, 3 pounds.

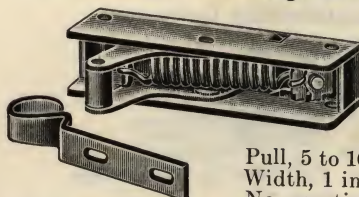
Type A, for Small Panels, Cabinet and Closet Doors.....each \$4.00

Type B, for Light, Medium and Heavy Doors.....each 5.00

No. A.P. Auxiliary Pusher to Overcome Vacuum in Closets.....each 3.00

Ives Adjustite Catches

Wrought Steel



For casement windows and large doors.

Draws in snugly any door from a small cupboard to a large closet. Tension adjustable.

Pull, 5 to 10 pounds.

Width, 1 inch; length, 4 inches.

No mortising necessary and no

latch or lock required.

Packed 6 in a box with template and screws.

Weight per dozen, $5\frac{1}{2}$ pounds.

No. 350F2C, Cadmium Plated.....per dozen \$12.08

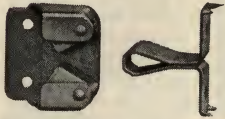
Adjustite Junior

For cupboards and small doors. Pull, $2\frac{1}{2}$ to $4\frac{1}{2}$ pounds.

Length, $2\frac{3}{4}$ inches; width, $\frac{3}{4}$ inch. Packed 12 in a box with template and screws. Weight per doz., 2 pounds.

No. 340F2C, Cadmium Plated.....per dozen \$7.56

No. N61-3396 National Cabinet Spring Catches



Strike has marker prongs to facilitate installation.
Packed 1 in an envelope with strike and screws; 12 in a carton.
Carton weight, 1 1/4 pounds.

No. N61-3396, Cadmium Plated.....per dozen \$3.00

No. N61-204T National Snap Grip Cabinet Spring Catches



A quiet operating catch. For application on inside of cabinet when a knob or handle is used on cabinet door.

Elongated holes in catch unit provide easy adjustment.

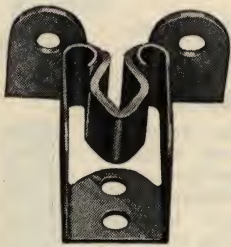
Furnished with two types of strikes as illustrated.

Packed 1 set in an envelope, 12 sets in a carton.

Weight per dozen sets, 1 pound.

No. N61-204T, Cadmium Plated.....per dozen sets \$2.40

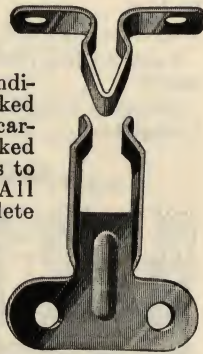
Frost Friction Door Catches



No. 40

Wrapped individually, packed 1/4 gross to a carton, or packed bulk, 1/2 gross to a carton. All catches complete with screws.

No. 40



No. 139

The spring portion is made from cold-rolled spring steel, oil tempered. Approximate weight per gross, 4 1/4 pounds.

No. 40.....per gross

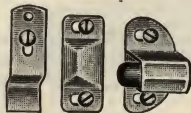
No. 139

Made from cold-rolled spring steel, oil tempered. Used on small doors, where the strength of the No. 40 catch is not required.

Approximate weight per gross, 2 3/4 pounds.

No. 139.....per gross

No. 33K Stanley Cabinet Spring Catches For Lipped or Flush Doors



Made of wrought steel. Furnished in zinc finish.

Screw holes are elongated to permit adjustment before being permanently installed.

Case, 1 1/4 x 5/8 inches.

Size of RH wood screws, 1/2 x 5 inches.

Packed 2 dozen in a box with wood screws and nails.

Weight per dozen, 3/4 pound.

Frost Friction Door Catches



14 1/2

Invisible; designed to work on any style door.
Made of brass.



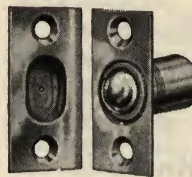
Non-Adjustable

No.....	14 1/2	10 1/2
Per Gross.....	\$2.60	3.00
Size.....inches	1 1/4 x 3/8	3/8 x 1 1/2

Adjustable Tension

No.....	25	22	30	9479	9480
Per Gross.....	\$8.55	9.10	15.55	32.40	42.40
Size.....inches	5/16 x 3/8	3/8 x 3/8	1/2 x 1 1/2	5/8 x 1 1/2	3/4 x 1 1/2

No. 234 Adams-Rite Ball Latches Brass



For installation on cupboards, cabinets, doors, etc.

Latch cannot jam because steel ball, rotating at any angle, always allows door to open and close easily.

Has a threaded barrel which provides, easy adjustment of latch in case of binding or shrinkage of door.

Has spring pressure adjustment at back of barrel for weight of door or draft correction.

Size, 2 1/8 x 1 inches.

Available with standard finishes.

Packed 1 dozen in a box.

Weight per dozen, 2 pounds.

No. 234.....per dozen \$11.92

Corbin Elbow Catches



Plate, 5/8 x 1 1/4 in. Packed, 3 doz. in box with screws; 60 doz. in case.

Cast Iron, Gloss Black

Weight, 1 pound per dozen.

No. J01622.....per gross

Cast Brass, Unpolished

Weight, 15 ounces per dozen.

No. 01623.....per gross

No. 2F4 Ives Elbow Catches

Burnished Cast Iron

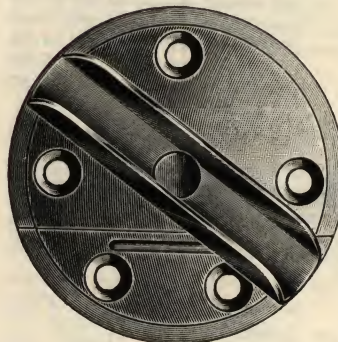
Plate, 1 3/8 x 5/8 inches.

Packed 2 dozen in a box with screws.

Weight per 2 dozen, 2 1/6 pounds.

No. 2F4, Dull Brass...per dozen \$2.78

No. 899 Brainerd Wrought Brass Cupboard Buttons



Made of .040-gage wrought brass.

Diameter, 1 3/4 inches.

Pierced for 5/8-inch No. 4 screws.

If screws or escutcheon pins are desired, add prefix X to No.

Available in all standard finishes.

Packed 1/4 gross in a box.

Weight per box, 1 1/2 pounds.

No. 899

..per gross

No. 1 K-Venience Clothing Carriers

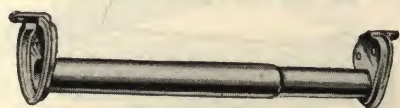


Ball bearing, nickel plated.

Packed 1 in a box with screws.

Size..in.	10	12	16	20	24	30	36	42	48
No.1.ea.	\$3.00	3.00	3.50	3.50	6.00	6.50	10.00	10.00	11.00
Wt...lb.	1 $\frac{3}{4}$	2	2 $\frac{1}{2}$	3	6	8	9	10	11 $\frac{1}{2}$

No. 2 K-Venience Extension Closet Rods



A practical solution to the problem of hanging garments in shallow closets. Sliding extension feature makes the rod adjustable to the full width of the closet, the end fastenings making for secure attachment to wall or over hook rail.

Size.....inches	18	30	48	72
No. 2, Nickel Plated.....each	\$1.40	1.75	2.40	3.75
Adjustable to Fit Closets..in.	18-30	30-48	48-78	72-96
Number in Standard Package	6	6	6	6
Weight per Standard Pkg..lb.	9	12	18	30

Can be furnished with center support for heavy loads with long rods; prices upon request.

No. 3 K-Venience Garment Brackets



Cast brass base with $\frac{1}{2}$ -inch steel rod, chrome plated.

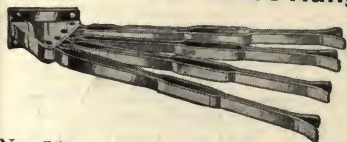
Length, 10 inches.

Packed 12 in a carton.

Weight per dozen, 12 pounds.

No. 3.....each \$1.00

No. 550 K-Venience Swinging Trouser and Skirt Hangers



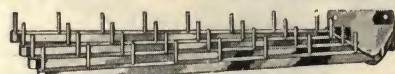
Made of steel, chrome plated.

Packed 12 in a carton.

Weight per dozen, 19 pounds.

No. 550.....each \$2.75

No. 773 K-Venience Tie Racks



Made of steel, chrome plated.

Four swing arms and twenty-eight separate tie compartments.

Packed 12 in a carton. Weight per dozen, 16 pounds.

No. 773.....each \$2.50

No. 4 Adjustable Shoe Racks



With Toe Guard

Made of steel, chrome plated.

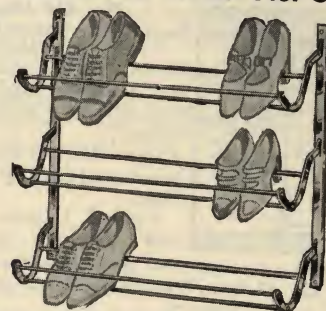
Adjustable from 18 to 30 inches.

Packed 12 in a carton.

Weight per dozen, 23 pounds.

No. 4.....each \$1.75

No. 785 K-Venience Three-Tier Shoe Racks



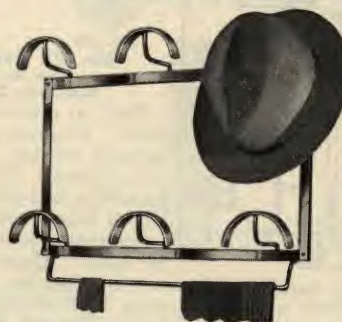
Made of steel, chrome plated.

Width, 20 $\frac{3}{4}$ inches; height, 22 $\frac{3}{4}$ inches.

Packed 1 in a carton. Weight, 6 pounds.

No. 785.....each \$3.50

No. 782 K-Venience Hat Combinations



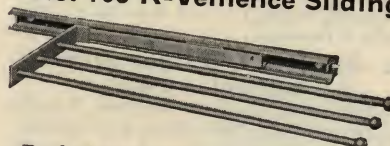
Made of steel, chrome plated.

Width, 20 $\frac{3}{4}$ inches. Height, 17 inches.

Packed 1 in a carton. Weight, 4 $\frac{1}{4}$ pounds.

No. 782.....each \$3.50

No. 793 K-Venience Sliding Towel Racks



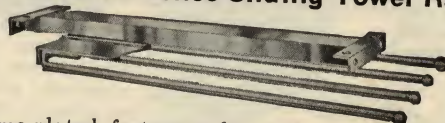
Fastens to wall of kitchen cabinet. Rod chrome plated.

Length, 20 in.; width, 5 $\frac{3}{4}$ in.

Packed 1 in a carton. Weight, 3 $\frac{1}{2}$ pounds.

No. 793.....each \$4.00

No. 798 K-Venience Sliding Towel Racks



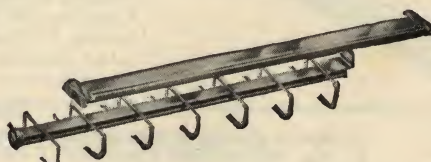
Chrome plated, fastens under shelf.

Length, 20 inches; width, 5 $\frac{1}{4}$ inches.

Packed 1 in a carton. Weight, 3 $\frac{3}{4}$ pounds.

No. 798.....each \$5.00

No. 790 K-Venience Disappearing Pan Racks



Chrome plated.

Fastens under shelf.

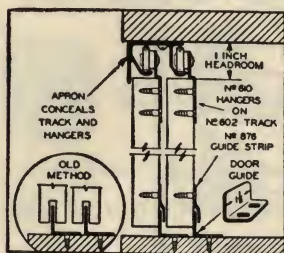
Length, 20 inches; width, 5 $\frac{1}{4}$ inches.

Packed 1 in a carton.

Weight, 3 $\frac{1}{2}$ pounds.

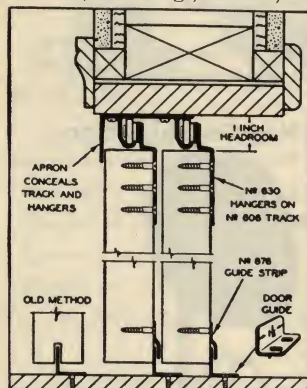
No. 790.....each \$5.00

600 Series Sterling Sliding Door Hangers and Tracks



No. 610

No. 610, Std. Pkg., 12 Prs., Weight 2½ Lb....per pr. \$1.50



No. 630

cut on job to fit opening and screwed to header.

Steel, cadmium plated. Rollers high strength molded nylon. Door guide 1½ inches long. Uses No. 602 track.

Packed 1 pair to a box with door guide and track screws.

No. 620, Std. Pkg., 12 pr., Weight 5½ Lb....per pr. \$3.50

No. 630

For 1½-Inch By-Passing Wardrobe Doors

Similar to No. 620, except for 1½-inch doors, weighing up to 60 pounds. Uses No. 606 track. Packed same as No. 620.

No. 630, Package Weight 6 Pounds.....per pair \$3.50



No. 880 Sterling Door Stops

For By-Passing Doors

Mounted on inside door surface. Limits sliding action; flush pulls always accessible.

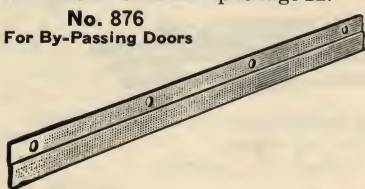
No. 880, Std. Pkg., 1 Dozen, Weight ½ Pound..each \$.25

Sterling Guide Strips

Eliminates grooving bottom of door. Mounting screws furnished. Standard package 12.

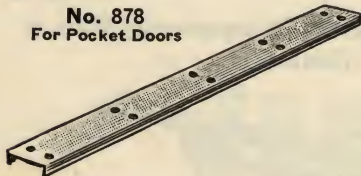
No. 876

For By-Passing Doors



No. 878

For Pocket Doors



Screwed to back of door; not visible from outside. Steel, cadmium plated. Lengths 24, 30, 32, 36 inches. Package weight 5 to 7½ lbs. No. 876..per ft. *\$.35

Width 1½ inches. Fits 1½-inch doors only. Made of extruded aluminum. Lengths 30, 32, 36 inches. Package wt., 4 to 5 pounds. No. 878..per ft. *\$.40



No. 610

No. 610 Hangers

For ¾-In. By-Passing Cabinet Doors

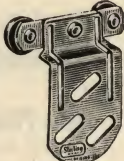
For light cabinet doors. Steel, cadmium plated. Rollers high strength molded nylon.

Uses No. 602 track. Door guide 1½ in. long.

Packed 1 pair to box with door guide and track screws.



No. 620



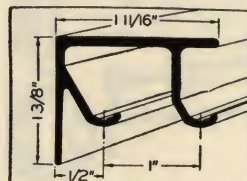
No. 630

No. 620 Hangers

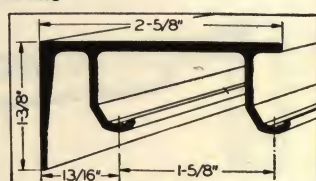
For ¾-Inch By-Passing Wardrobe Doors

Easy to plumb door with jamb. Mounting holes in hangers slotted to provide adjustment. Doors glide smoothly and quietly. Only 1-inch head room required.

Standard door frame can be used. Aluminum track

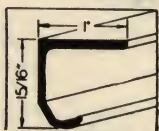


No. 602



No. 606

Tracks



No. 601

No. 601 used singly for pocket doors; side by side for by-passing doors.

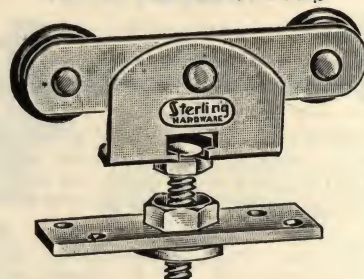
Nos. 602 and 606 for by-passing doors. Etched, anodized, wrapped for protection. Gives track silvery look; base for paint or lacquer.

No. 601, Lengths 48, 60 and 72 Inchesper ft. *\$.45

No. 602, Lgths. 48, 60, 72, 96 and 120 Inch....per ft. * .90

No. 606, Lgths. 48, 60, 64, 72, 96, 120 Inch.....per ft. *1.15

No. 642 For Pocket Doors

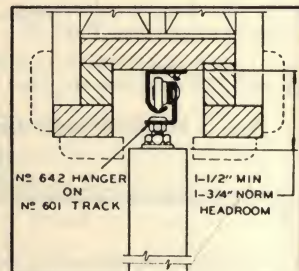


For doors up to 75 lb.

Hangers adjustable. Minimum head room, 1½ inch. Smooth, quiet glide. Steel, cadmium plated. Rollers high strength molded nylon. Door guide 1½ inches long.

Packed 1 pair to box with door guide, track screws. Standard package, 12 pairs, weight 6 lb.

No. 642.....per pair \$5.00



No. 639 Sterling Center Stops

For 4 by-passing doors. Rubber bumpers attach to inside of 2 meeting doors. Not used with Series 800 hardware.

Standard package, 12. Package weight, 1¼ pound.

No. 639.....each \$1.00

No. 882 Sterling Edge Pulls



Drop ring for finger. Plate 1x2¼ inches. Overall depth, ¾ inch. Solid brass. Brass screws.

Standard package, 12. Weight, 1 pound.

Finish	Per Dozen
Polished and Lacquered....	\$13.50
Polished or Dull Chrome Plated.....	16.20

Sterling Flush Pulls

Made of solid brass. Brass screws. Standard package, 12. Weight, 1 pound.

No. 871 Outside Diameter, 1 inch; Depth, ¾ Inch; Fits ¾-Inch Hole; Bright Dip Finish; Standard Package, 1 Gross.....per gross \$4.00

No. 872 outside diameter, 2¼ inches. For 1¼-inch hole.

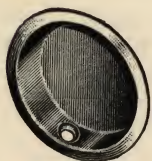
No. 873 is 1½x3 inches.

Finish..... Polished Lacquer Polished Chrome Plate Dull Chrome Plate Dull Finish

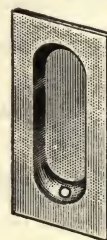
No. 872 per dozen.. \$3.75 \$4.50 \$4.50 †\$2.25

No. 873 per dozen.. 3.75 4.50 4.50 †4.50

*Approximate. †Aluminum. Package weight, ½ pound. ‡Dull bronze.



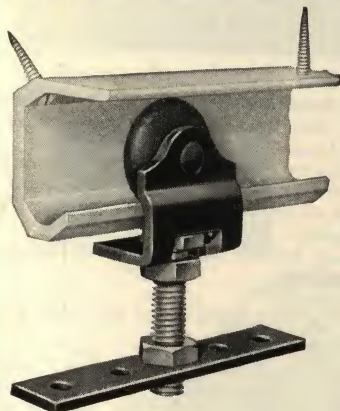
No. 872



No. 873

No. 1019 Richards-Wilcox Silver Streak Vanishing Door Hangers and Track

Designed for sliding doors used in thin wall pockets such as can be built in 2x4-inch studded wall. Can be used on doors $\frac{3}{4}$ inch or more in thickness, up to 100 pounds.



Ball-bearing hanger wheel, $1\frac{1}{4}$ -inch diameter, is made of a fine weave cloth base bakelite; long wearing, quiet.

Operates on No. 1019 track of hard composition extruded aluminum; height, $1\frac{1}{16}$ inches. Installed back to back when parallel doors are used. Screws are easily inserted. In 4, 5, 6 and 8-foot lengths. Weight per foot, $\frac{1}{2}$ lb.

Hanger attaches to top of door, Has vertical adjustment. Hanger

plate is $\frac{3}{4}$ -inch wide.

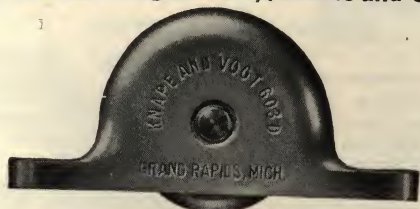
Steel hanger apron, pendant, plate finished in silver.

No. 719 floor guide, which is furnished, is designed so that only rounded surfaces come in contact with the groove in door, eliminating scraping. Cadmium plated. Length, $2\frac{1}{8}$ inches. Width, $\frac{1}{4}$ inch. Height, $\frac{1}{2}$ inch.

Packed 1 pair in carton with floor guide, instructions.

No. 1019, Hanger.....	per pair	\$4.25
No. 1019, Track.....	per foot	.70
No. 1019, Aprons Only.....	per pair	.19

No. 603D K-V Inclosed Noisless Sheaves For Heavy Sliding Doors $1\frac{1}{4}$ Inches and Over



Recommended for use with No. 463 track for heavy sliding household doors.

Made of cast white metal, natural finish.

Has Oilite bronze bearing.

Length of flange, $4\frac{1}{4}$ inches; height of case, $1\frac{1}{8}$ inches; width of case, $\frac{5}{8}$ inch; diameter of wheel, $1\frac{1}{8}$ inches.

Packed 12 in a carton. Weight per dozen, $4\frac{1}{2}$ pounds.

No. 603D.....per dozen \$20.00

No. 463X K-V Solid Brass Flush Tracks For Heavy Sliding Doors



Width, 1 inch. Cut groove: width, 1 inch; depth, $\frac{3}{16}$ inches.

Countersunk for $\frac{1}{2}$ -inch No. 2 flat head screws.

Furnished in stock lengths of 5, 6, 8 and 12 feet. Other lengths are available on request.

Natural brass finish.

Weight per 100 feet, $17\frac{1}{2}$ pounds.

No. 463X.....per foot \$.66

Adams-Rite Flush Pulls or Lifts



For traditional or modern interiors. Suitable for windows and cabinet panels as well as doors. Size $5\frac{1}{2} \times 1\frac{5}{16} \times \frac{1}{2}$

No. 109

Made of cold forged brass or bronze, finely finished. Other standard finishes available.

Packed 1 dozen in a box with brass wood screws.

Weight per dozen, 2 pounds.

No. 109.....per dozen \$14.14

No. 209

Made of stamped brass or bronze, finely finished. Other standard finishes available.

Packed 1 dozen in a box with escutcheon pins.

Weight per dozen, 1 pound.

No. 209.....per dozen \$7.94

No. 977 Corbin Flush Door Pulls Cast Brass or Bronze



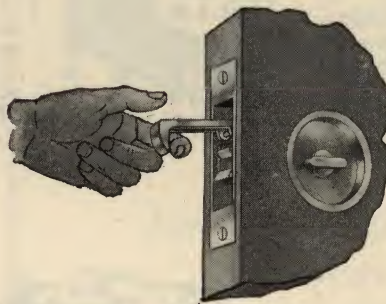
Size, $4\frac{1}{2} \times 1\frac{1}{8}$ inches.

Packed 12 in a box with screws.

Weight per dozen, $3\frac{3}{4}$ pounds.

No. 977.....per dozen

No. 62-E Peabody Mortise Sliding Door Locks



Can be used in any sliding door that is $1\frac{3}{8}$ or more inches thick. Doors more than $1\frac{3}{4}$ inches thick require turn pieces with extra length shanks.

Lock face, $\frac{7}{8} \times 4\frac{1}{4}$ in.; backset, $2\frac{1}{4}$ in.; wrought brass or bronze interchangeable escutcheons, diameter, $2\frac{3}{8}$ in.

An edge pull is incorporated in the face of the lock, making a separate edge pull unnecessary.

Available in all standard and split finishes.

Packed 1 in a box with a thumb turn in one escutcheon, an emergency turn in the other escutcheon, and a template.

Weight, $\frac{7}{8}$ pound.

No. 62-E.....each

Hardware Estimates

OUR friendly and experienced hardware department offers aid in the selection of hardware best suited to your needs. It will pay you to consult with us.

K-V Roller Tracks For Sliding All-Glass Doors

Upper T Guides



No. 953

Use 1/2-inch No. 2 flat head wood screw.

Weight per 100 feet, 22 lb.

No. 953. Made of cold rolled steel, cadmium plated.

No. 953-X. Made of wrought brass.

Roller Carriers



No. 950

Weight per 100 feet, 18 lb.

No. 950. Made of cold rolled steel, cadmium plated.

No. 950-X. Made of wrought brass.

Lower T Divisions and Channels



No. 941

No. 941. Made of cold rolled steel, cadmium plated.

No. 941-X. Made of wrought brass.

Metal Shoes for Plate Glass Doors



No. 958

Used on bottom of doors to prevent chipping of glass.

Wt. per 100 feet, 13 lb.

No. 958. Cold rolled steel, cadmium plated, for 1/4-inch glass.

No. 958-X. Wrought brass, for 1/4-inch glass.

Lower T Guides



No. 951

Used with No. 922 assembly.

Use 1/2-inch No. 2 flat head screw.

Width, 1 in. Height, 7/8 in.

Wt. per 100 feet, 28 lb.

No. 951. Cold rolled steel, cadmium plated.

No. 951-X. Wrought brass.

No. 951-X. Wrought brass.

Used with No. 923 assembly.

Use in place of No. 951 lower T guide.

Width, 1 inch. Height, 13/16 inch.

Stock lengths, 12 feet.

Weight per 100 feet, 55 lb.

No. 941-X. Made of wrought brass.

Brass with Nat.

No.	Description	Steel, Stock Lengths to 240-Ft.	Cad. Plated, Stock Lengths to 108-Ft.	Brass Fin., Cut to Size 192-Ft.	Brass Fin., Cut to Size 192-Ft.
953	Upper T Guide.....	\$.24	\$.26	\$.58	\$.44
958	Metal Shoe.....	.16	.18	.38	.50
958XNP	Brass Shoe N.P.....	..	..	.46	.60
950	Roller Carrier.....	.30	.32	.60	.52
951	Lower T Guide.....	.32	.36	.58	.74
941	Lower T and Channel.....	.44	.46	.70	.86
940-12	Channel Only.....	.33	.36	.60	...

Assemblies



No. 923 Assembly

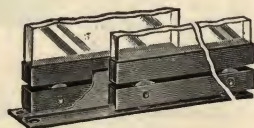
No. 922 Assembly

Consists of 1 foot of No. 953 upper track, 1 foot of No. 951 lower track, 1 foot of No. 958 shoe and 1 1/2 feet of No. 950 carrier per foot of opening.

No. 923 Assembly

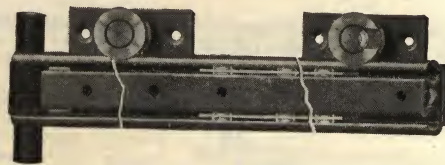
Consists of 1 foot of No. 953 upper track, 1 foot of No. 941 lower T division and channel, 1 foot of No. 958 shoe and 1 1/2 feet of No. 950 carrier per foot of opening.

No.	Description	922	923
Steel, Cadmium Plated:			
Stock Length, 240 Feet.....	per foot	\$1.17	\$1.29
Stock Length, 108 Feet.....	per foot	1.28	1.38
Cut to Size.....	per foot	2.44	2.56
Brass with Nat. Brass Fin.:			
Stock Length, 192 Feet.....	per foot	2.34	2.46
Cut to Size.....	per foot	3.17	3.33



No. 922 Assembly

No. 1400 K-V Ball Bearing Extension Drawer Slides



Provides floating extension for heavy drawers and positively eliminates sticking, jamming, sag or breakdown, even when drawers are heavily loaded and fully extended.

Heavy drawers slide easily on ball bearings. All stopping points protected with rubber bumpers. Drawers pull out full length beyond the face of the cabinet and can be easily lifted out when fully extended.

Genuine Oilite oil-cushion bronze bearings in rollers are self-lubricating and frictionless.

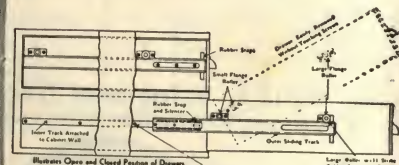
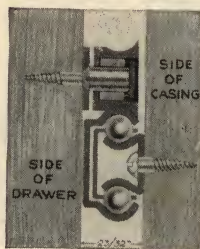
Zinc plated finish is standard.

Shipping weight: 20-inch size, 4 pounds per pair; 30-inch size, 5 1/2 pounds per pair.

Size Inches	Per Set	Size Inches	Per Set	Size Inches	Per Set	Size Inches	Per Set
12	\$4.50	18	\$4.50	26	\$5.32	36	\$6.54
14	4.50	19	4.50	28	5.64	38	6.76
15	4.50	20	4.68	30	5.86	..	..
16	4.50	22	4.94	32	6.10	..	..
17	4.50	24	5.12	34	6.30	..	..

Sizes 21, 23, 25, 29 and 37 inches are available on special order.

To Install



End View of Drawer Slide

Drawer Size—1 1/8-inch narrower, 1/4-inch lower, 1/4-inch shorter than drawer opening. No mortising necessary. These drawer slides can be used on drawers with casing sides 2 3/4 inches and lower by cutting off stops.

Drawer Slides—To determine proper size of drawer slide, measure from back end of drawer to back side of drawer front regardless of style of drawer. All slides are reversible and are equipped with rubber bumpers for noiseless opening and closing of drawer.

Application—Screw inner channel securely to side of case in approximate center. Pull slides all the way out. Place flange roller against back of bumper and fasten securely to drawer side. Place back roller parallel with front roller and 1/4-inch from back end of drawer.

Acme Adjustable Showcase Standards and Brackets



For standard showcases. For glass or wood shelves. Made of wrought steel. Nickel plated or statutory finish.

No. 51 Standards

Standard is 3/4 inch wide and has 1 5/8-inch spacing. Open ends.

Stock lengths: 18, 24, 30, 36, 42, 48, 60, 72, 144 inches.

Countersunk for No. 8 flat head screw.

Packed 10 strips in a package.

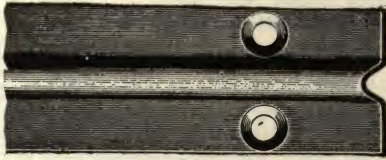
Per Foot..... \$20

No. 52 Brackets

Width, 1/2 inch; .095-inch metal. Packed 100 pieces of a size in a box.

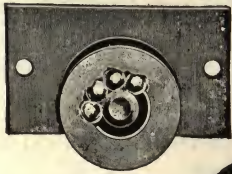
Size, In.	Per 100	Size, In.	Per 100	Size, In.	Per 100
4	\$26.50	8	\$31.90	14	\$40.00
5	26.50	10	34.50	16	47.80
6	26.50	12	37.00	18	55.90

No. 26U Garcy Wrought Steel Sliding Door Tracks

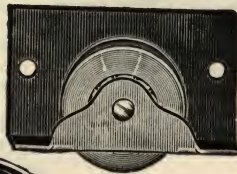


Brass plated.
Stock lengths, 4,
6, 8 and 12 feet.
Fits sheaves Nos.
A4, A5, A6, A94,
A99.
No. 26U per ft. ...

**Garcy Champion Ball Bearing Sheaves
With Round Grooves**



No. A5



No. A6



Nos. A4, A94, A99

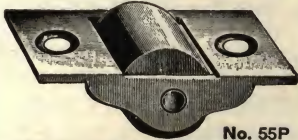
Has thick and thin cone construction. Balls and weight of door are always on solid thick cones which do not spread apart. Balls do not wear on edges of cones. Cones, balls and wheels are solid steel, accurately turned; cones and balls are case hardened. Frames of heavy metal, countersunk to receive axle which is machine riveted. Sheaves are oiled and tested.

No.	A5	A6	A4	A94	A99
Per Dozen					
Thickness.....in.	1 3/32	1 1/2	1 1/2	1 1/2	1 3/32
Size Frame.....in.	2 1/4 x 1 3/8	2 3/8 x 1 3/8	2 15/16	2 15/16	2 1/4
Diam. Wheels.....in.	1 3/8	1 3/8	1 3/8	1 3/8	1
No. in Box.....	48	48	48	48	72

*Length.

Garcy Drawer Rollers

Made of plain steel.



No. 55P

No.	Per Doz.	Size Frame In.	Diam. Wheel In.	No. in. Box
55P	1 1/2 x 5/8	5/8	144
50P	1 3/4 x 3/4	5/8	72
51P	2 x 1	3/4	48

Garcy Pilaster Standards and Brackets

For ordinary adjustable shelving four brackets are required for each shelf and four pilaster standards for each vertical row of shelves. Brackets snap in or out.

No. K73 Standards

Made of steel, brass, nickel silver or alchrom, a rust proof white nickel-chromium aluminum alloy. Any desired finish.

Width, 7/8 inch; adjustment every 1/2 inch. Stock lengths, 36, 48, 60, 72, and 144 inches.

Sizes up to 72 inches packed 24 to package. Furnished with corrugated, countersunk, screw head type nails.

No. K73.....per foot

Adjustable Brackets

Nos. A73, T73, P73 made of steel, finished bright nickel, statuary bronze or rustproof cadmium. Nos. K73 and A73 also stocked in solid brass, ready for finishing. Nos. K73 and T73 also stocked in natural finish Alchrom.

No.	A73	T73	P73
Per Dozen.....

K-V Steel Supports and Standards



No. 255 Standard
with No. 256 Support

Support fits securely and is quickly adjusted.
Has screw holes every 6 inches. May be mounted to surface of woodwork or set flush in a groove.
Numbered every inch for easy alignment of shelves.
Strength tested to over 700 pounds.
Can also be made of brass. Prices upon request.

No. 255 Standards

Width, 5/8 inch; height, 3/16 inch.

Furnished in stock sizes of 36, 48, 60, 72 and 144 inches.

Packed 25 pieces of a size in a bundle.

Shipping weight per 1000 feet, 170 pounds.

No. 255, Nickel or Zinc Plated.....per 100 feet \$10.50

No. 256 Supports

Packed 100 in a box.

Shipping weight per 1000, 25 pounds.

No. 256, Nickel or Zinc Plated.....per 100 \$3.50

No. 346 K-V Steel Shelf Pins

For Bored Wood Posts



Nickel plated.

Size pin, 1/4-inch; shipping weight per 100, 2 pounds.

Packed 100 in a carton.
No. 346.....per 100 \$3.60

Locks and Builders' Hardware

In addition to the locks and builders' hardware illustrated in this book, we carry an extensive stock and invite your inquiries for all of the items kindred to this line. Tell us your requirements.

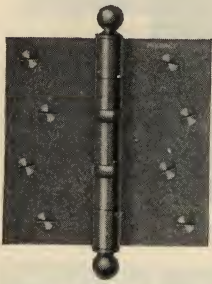


We are as near
as your nearest
telephone.

McKinney Wrought Bronze or Brass Butt Hinges

No. A3313 Oilite Bearing

No. B3313 Ball Bearing
Self Lubricating Pin, Non-Rising—Ball Tip



Recommended for doors of medium weight and average frequency.

All sizes are equipped with two bearings to carry the vertical load.

The inner edges of the leaves are beveled to conform to the radius of the barrel of the hinge and the outer edges are ground square.

Has stainless steel pin.

Furnished in 3x3, 3½x3½, 4x4, 4½x4, 4½x4½, 5x4, 5x4½, 5x5 and 6x6-inch sizes.

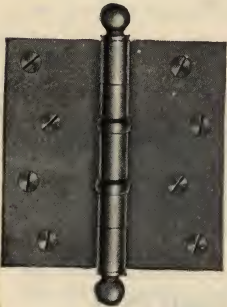
Highly polished. Available in all standard finishes.

Packed 1 pair in a box with screws.
Prices on application.

McKinney Wrought Steel Butt Hinges

No. A2714 Oilite Bearing

No. B2714 Ball Bearing
Self-Lubricating Pin, Non-Rising—Ball Tip



Recommended for wood doors of medium weight and average frequency.

All sizes equipped with two bearings to carry the vertical load.

Furnished in 3x3, 3½x3½, 4x4, 4½x4, 4½x4½, 5x4½, 5x5 and 6x6-inch sizes.

Planished. Available in all standard finishes.

Packed 1 pair in a box with wood screws.

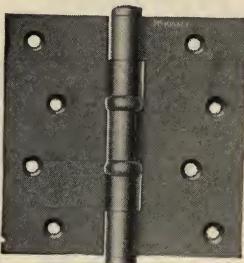
Prices on application.

McKinney Wrought Steel Butt Hinges

No. A714 ½PC Oilite Bearing

No. B714 ½PC Ball Bearing

Self-Lubricating Pin, Non-Rising—Button Tip



Recommended for wood doors of medium weight and average frequency.

All sizes equipped with two bearings to carry the vertical load.

Furnished in 3x3, 3½x3½, 4x4, 4½x4, 4½x4½, 5x4½, 5x5, and 6x6-inch sizes.

Bonderized and primed for painting.

Packed 1 pair in a box with wood screws.

Prices on application.

No. 3313 McKinney Wrought Bronze and Brass Butt Hinges

Loose Pin, Non-Rising—Ball Tip



Recommended for light weight doors where frequency is not high.

The inner edges of the leaves are beveled to conform to the radius of the barrel of the hinge and the outer edges are ground square.

Has stainless steel bushings and pin.

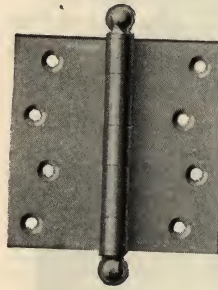
Furnished in 2½x2½, 3x3, 3½x3½, 4x4, 4½x4½, 5x5 and 6x6-inch sizes.

Highly polished. Available in all standard finishes.

Packed 1 pair in a box with screws.
Prices on application.

No. 2714 McKinney Wrought Steel Butt Hinges

Plain Bearing, Loose Pin, Non-Rising—Ball Tip



Recommended for light wood doors in residences and other buildings where the frequency is not high.

Furnished in 2x2, 2½x2½, 3x3, 3½x3½, 4x4, 4½x4½, 5x5 and 6x6-inch sizes.

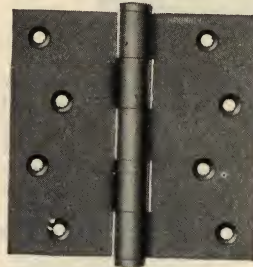
Available in all standard finishes.

Sizes 2x2 and 2½x2½ inches packed 3 pair in a box; all other sizes 1 pair in a box.

Prices on application.

No. 714 ½PC McKinney Wrought Steel Butt Hinges

Plain Bearing, Loose Pin, Non-Rising—Button Tip



Recommended for light wood doors in residences and other buildings where the frequency is not high.

Furnished in 2x2, 2½x2½, 3x3, 3½x3½, 4x4, 4½x4½, 5x5 and 6x6-inch sizes.

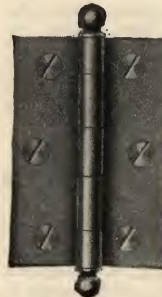
Bonderized and primed for painting.

Sizes 2x2 and 2½x2½ inches packed 3 pair in a box; all other sizes 1 pair in a box.

Prices on application.

No. 3322 McKinney Wrought Bronze and Brass Cabinet Narrow Butt Hinges

Loose Pin—Ball Tip



Recommended for light cabinet work such as cupboards, bookcases, china closets, medicine cabinets, etc.

Furnished in 1½, 2, 2½ and 3-inch sizes.

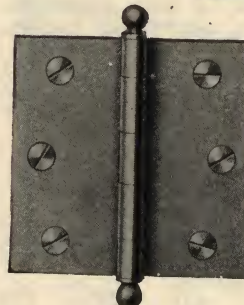
Highly polished. Available in all standard finishes.

Packed 6 pairs in a box with screws.

Prices on application.

No. 3318 McKinney Wrought Bronze and Brass Cabinet Butt Hinges

Loose Pin—Ball Tip



Recommended for light cabinet work such as cupboards, bookcases, china closets, medicine cabinets, etc.

Furnished in 2x2, 2½x2, 2½x2½, 3x2½ and 3x3-inch sizes.

Highly polished. Available in all standard finishes.

Packed 6 pairs in a box with screws.

Prices on application.

No. 2722 McKinney Wrought Steel Cabinet Narrow Butt Hinges
Loose Pin—Ball Tip



Recommended for light cabinet work such as cupboards, bookcases, china closets, medicine cabinets, etc.

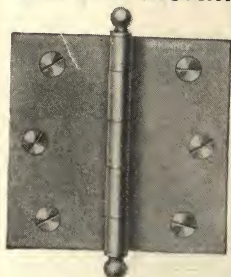
Furnished in 1½, 2, 2½, and 3-inch sizes.

Available in all standard finishes.

Packed 6 pairs in a box with screws.

Prices on application.

No. 2718 McKinney Wrought Steel Cabinet Butt Hinges
Loose Pin—Ball Tip



Recommended for light cabinet work such as cupboards, bookcases, china closets, medicine cabinets, etc.

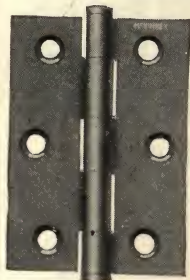
Furnished in 2x2, 2½x2, 2½x2½, 3x2½ and 3x3-inch sizes.

Available in all standard finishes.

Packed 6 pairs in a box with screws.

Prices on application.

No. 722 ½PC McKinney Wrought Steel Cabinet Narrow Butt Hinges
Loose Pin—Button Tip



Recommended for light cabinet work such as cupboards, bookcases, china closets, medicine cabinets, etc.

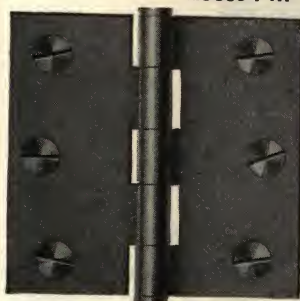
Furnished in 1½, 2, 2½ and 3-inch sizes.

Bonderized and primed for painting.

Packed 6 pairs in a box with screws.

Prices on application.

No. 718 ½PC McKinney Wrought Steel Cabinet Butt Hinges
Loose Pin—Button Tip



Recommended for light cabinet work such as cupboards, bookcases, china closets, medicine cabinets, etc.

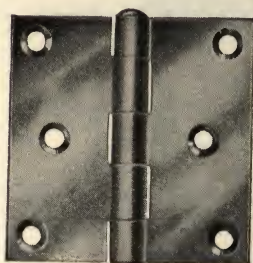
Furnished in 2x2, 2½x2, 2½x2½, 3x2½ and 3x3-inch sizes.

Bonderized and primed for painting.

Packed 6 pairs in a box with screws.

Prices on application.

McKinney Wrought Steel Broad Butt Hinges
Tight Pin



Plain steel.

Furnished in 2x2, 2½x2½, 3x3, 3½x3½, 4x4, 4½x4½, 5x5 and 6x6-inch sizes without screws.

Prices on application.

No. SC705G-BR

Hot galvanized with brass pins.

Furnished in 2x2, 2½x2½, 3x3, 3½x3½, 4x4, 4½x4½, 5x5 and 6x6-inch sizes with wood screws.

No. 2705 McKinney Wrought Steel Transom Butt Hinges
Tight Pin



Recommended for use on transoms or casement sash and doors requiring tight pin hinges.

Furnished in 2x2, 2½x2½, 3x3, 3½x3½ and 4x4-inch sizes.

Available in all standard finishes.

Packed 6 pairs in a box with screws.

Prices on application.

No. 706 McKinney Extra Heavy Wrought Steel Butt Hinges
Blank, Flat Back, Tight Pin



Recommended for iron shutters, gates, jail cell doors.

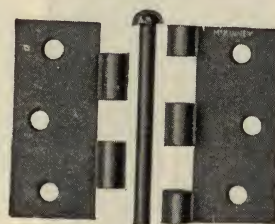
The leaves may be cut off and holes drilled to meet requirements.

Butt can also be furnished with loose pin or for mortise work if specified.

Bright steel.

Size in. 2x2 2½x2½ 3x3 3½x3 3½x3½ 4x3 4x4 4½x4½ 5x5 6x6
Doz. Pr., Ctn. 10 5 5 3 3 2 2 1 1 1
Prices on application.

McKinney Wrought Steel Reversible Butt Hinges
Loose Pin



No. 703

Plain steel.

Furnished in 2x2, 2½x2½, 3x3, 3½x3½, 4x4, 4½x4½, 5x5 and 6x6-inch sizes without screws.

Prices on application.

No. SC703G-BR

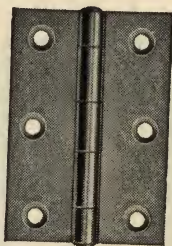
Hot galvanized with brass pins.

Furnished in 2x2, 2½x2½, 3x3, 3½x3½, 4x4, 4½x4½, 5x5 and 6x6-inch sizes with wood screws.

Prices on application.

No. 838 Stanley Wrought Steel Light Narrow Butts

Bright Steel—Fast Pin

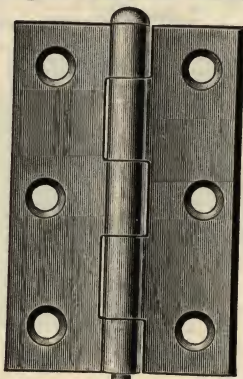


The two inch and larger have five knuckles, the smaller sizes have three.

The 3-inch and smaller, packed 1 dozen pairs in a box; 3½ to 4½-inch, ½ dozen; larger sizes, ¼ dozen; all without screws.

Size Length Inches	Per Dozen Pairs	Width Open Inches	No. of Screw Holes	Size of Screws No.	Dozen Pairs in a Case	Aver. Net Wt., Lb. per Doz. Pairs.	Aver. Case Wt. Lb.
¾	1 1/16	4	1 1/2 x 2	100	3 1/16	20
1	1 1/8	4	1 1/2 x 3	50	1 1/2	26
1 1/4	1 1/16	4	5/8 x 4	25	3/4	19
1 1/2	1 3/8	4	5/8 x 5	25	1	24
1 3/4	1 7/16	4	5/8 x 5	25	1 1/4	32
2	1 9/16	4	3/4 x 6	25	2	46
2 1/2	1 11/16	6	3/4 x 6	25	2 1/2	60
3	2	6	3/4 x 7	15	4 1/8	58
3 1/2	2 1/4	6	3/4 x 8	10	4 5/8	50
4	2 7/8	8	1 x 9	6	8	51
4 1/2	3	8	1 1/4 x 10	...	10 3/4	...
5	3 3/16	8	1 1/4 x 10	...	13	...
6	3 15/16	8	1 1/4 x 10	...	22	...

No. 840 Stanley Wrought Steel Loose Pin Light Narrow Butts



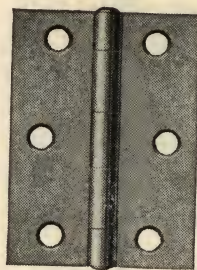
Bright steel. May be reversed by removing the oval head loose pin. The 2-inch and larger sizes have five knuckles; the smaller sizes three. The 3-inch and smaller sizes packed 12 pairs in a box; 3½ to 4½-inch inclusive, 6 pairs; larger sizes, 3 pairs; all without screws.

Size Length In.	Per Dozen Pairs	Width Open In.	No. of Screw Holes	Size of Screw No.	Dozen Pairs in Case	Aver. Wt. Lb., per Doz. Pairs.	Aver. Case Wt. Lb.
¾	1 1/16	4	1 1/2 x 2	100	3 1/16	20
1	1 1/8	4	1 1/2 x 3	50	1 1/2	26
1 1/4	1 1/16	4	5/8 x 4	25	3/4	19
1 1/2	1 3/8	4	5/8 x 5	25	1	24
1 3/4	1 7/16	4	5/8 x 5	25	1 1/4	32
2	1 9/16	4	3/4 x 6	25	2	46
2 1/2	1 11/16	6	3/4 x 6	25	2 1/2	60
3	2	6	3/4 x 7	15	4 1/8	58
3 1/2	2 1/4	6	3/4 x 8	10	4 5/8	50
4	2 7/8	8	1 x 9	6	8	51
4 1/2	3	8	1 1/4 x 10	...	10 3/4	...
5	3 3/16	8	1 1/4 x 10	...	13	...
6	3 15/16	8	1 1/4 x 10	...	22	...

No. 800 Wrought Steel Narrow Butts

Bright Steel

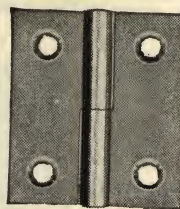
Packed without screws.



Size In.	Per Doz. Pr.	Width Open In.	No. of Screw Holes	Size of Screws No.	No. of Knuckles	No. of Pr. in Box	Aver. Wt. Lb. per Doz. Pr.
1	1 3/16	4	5/8 x 5	3	12	3 1/4
1 1/4	1 3/8	4	3/4 x 6	3	12	1
1 1/2	1 1/2	4	3/4 x 6	3	12	1 1/2
1 3/4	1 9/16	4	3/4 x 6	3	12	1 3/4
2	1 11/16	4	3/4 x 7	3	12	2 1/2
2 1/2	1 7/8	6	3/4 x 7	3	12	3 1/2
3	2 1/16	6	3/4 x 8	5	12	4 1/8
3 1/2	2 1/2	6	1 x 9	5	6	7 1/8

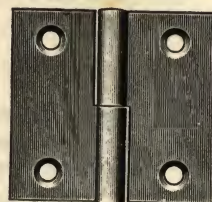
No. 802 Stanley Wrought Steel Narrow Loose-Joint Butts

Bright Steel



Packed one dozen pairs in a box.	Without screws.		
Length.....inches	2	2 1/2	3
Per Dozen Pairs.....			
Width Open.....inches	1 11/16	1 7/8	2 1/8
No. of Screw Holes.....	4	6	6
Size of Screws.....	3/4 x 7	3/4 x 7	3/4 x 8
Wt. Per Doz. Pairs.....pounds	2 1/4	3 1/4	4 1/2

No. 806 Stanley Wrought Steel Loose Joint Butts



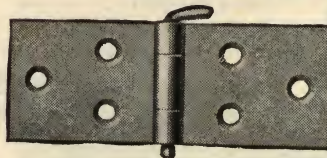
Bright steel finish.

Packed 12 pairs in a box, without screws.

Size Open.....inches	2x2	2 1/2 x 2 1/2	3x3
Per Dozen Pairs.....			
No. of Screw Holes.....	4	6	6
Size Screws.....inches	3/4 x 7	3/4 x 8	7/8 x 8
Wt. per Doz. Pairs.....pounds	3	4 7/8	7 1/4

No. 813 Stanley Wrought Steel

Back Flap Hinges
With Bent Loose Pin



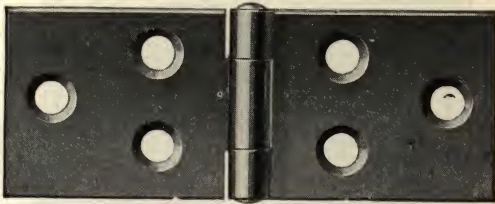
Plain, swaged.

Packed 12 pairs in a box without screws.

Length of Joint.....inches	1 1/2	1 3/4	2
Width Open.....inches	3 1/16	4	4 3/8
Gage of Metal.....	.075	.077	.077
No. & Size of Wood Screws.....	6—3/4"x8"	6—3/4"x8"	6—3/4"x8"
Doz. Pairs in a Case.....	50	25	25
Approx. Case Wt. pounds	147	103	130

Stanley Wrought Steel Back Flaps

No. 814, Swaged No. 814½, Not Swaged
Fast Pin—Plain Steel

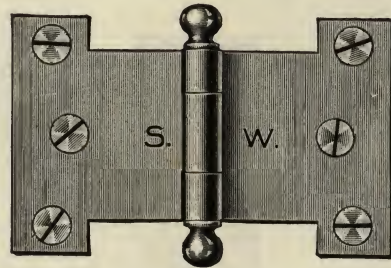


One dozen pairs in a box without screws.

Size Inches	Per Dozen Pairs	Width Open Inches	Gage of Metal	Quantity and Size of Wood Screws	Avg. Wt., Lb. per Doz. Pairs
¾	2¾	.075	4-¾x6	11½
1	27⁄8	.075	6-¾x6	15½
1¼	3¼	.075	6-¾x7	21½
1½	37⁄16	.075	6-¾x8	23¼
1¾	4	.077	6-¾x8	37½
2	43⁄8	.077	6-¾x8	47½

No. 260 Stanley Wrought Steel Parliament Butts

Loose Pins and Ball Tips

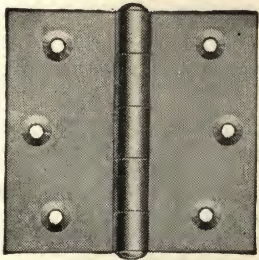


Planished and plated.

Packed, 4-inch and smaller, one dozen pairs in a box; larger sizes are packed six pairs in a box, except the 10-inch, which is packed three pairs in a box all with screws.

No. 808 Stanley Wrought Steel Butt Hinges

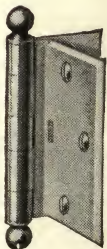
Broad—Fast Pin



Has five knuckles.
No. 808, plain steel, is furnished without screws; Nos. 808K and 808KBP, zinc plated, are furnished with wood screws.
Sizes 3x3 inches and smaller are packed 1 dozen pairs in a box; 3½x3 to 4x4 inches inclusive, 6 pairs; 4½x4½ and 5x5 inches, 3 pairs; 6x6 inches, 1 pair.

Size Inches	No. 808 Plain Steel Per Doz. Pr.	No. 808K Zinc Plated with Brass Pin Per Doz. Pr.	No. 808KBP Zinc Pltd. Per Doz. Pr.	Gage Metal	No. of Screw Holes	SIZE Lgth. In.	SCREW Gage No.	Wt. Lb. per 100 Pr.
2 x2082	4	¾	7	30
2½x2089	6	¾	8	39
2½x2½089	6	¾	8	48
3 x2½092	6	7⁄8	8	63
3 x3092	6	7⁄8	8	73
3½x3101	6	1	9	95
3½x3½101	6	1	9	103
4 x4107	8	1	10	141
4½x4½123	8	1¼	10	204
5 x5140	10	1¼	12	285
6 x6160	10	1½	14	440

No. 165 Stanley Wrought Steel Half Surface Butts



Half surface butts, made from planished cold rolled steel and plated.

Beveled edges and oval head screws add dignity and simplicity to the design.

Oval head wood screws on door leaf; flat head screws on jamb leaf.

The slot in the lower ball tip allows it to be unscrewed for the purpose of reversing the butt.

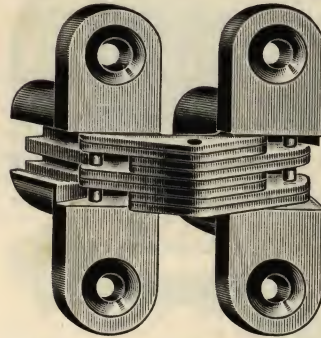
These butts effect economy in the cost of hanging doors. The surface leaf is applied to the door without mortising.

Furnished with screws.

Size Length Inches	H Dead Black per Pr.	N Nickel per Pr.	No. of Screw Holes	Size of Screws	No. of Pairs in Box	Wt. Lb. per Pair
1½	4	5⁄8x5	12	1½
2	5	¾x7	3	31⁄10
2½	6	¾x8	3	1½
3	6	7⁄8x8	1	1
3½	6	1 x9	1	1½
4	8	1 x10	1	2
4½	9	1¼x10	1	2½

Width Open Inches	No. of Screw Holes	Size Screws	Weight Pounds per Dozen Pairs	PRICE, PER DOZEN PAIRS A-D2 F	H Dull Black
3	6	7⁄8-inch x 8	5	.....	.....
3½	6	7⁄8-inch x 9	6½	.....	.....
4	6	1 -inch x 9	7½	.....	.....
4½	6	1 -inch x 9	8¾	.....	.....
5	6	1 -inch x 9	10	.....	.....
6	6	1¼-inch x 10	14¾	.....	.....
8	6	1¼-inch x 12	30	.....	.....
10	8	1¼-inch x 12	46	.....	.....

Soss Invisible Hinges



Made of zinc base alloy die castings with hardened steel links and pins.

Used for building construction, furniture, piano and cabinet work.

Nos. 101 and 203 are for ordinary light cabinet work.

No. 204 is for light doors, counter flaps, lockers, radiators, seats, hall seats, small closets, secret panels, and various kinds of furniture.

No. 208 is for purposes similar to No. 204 but where greater strength is desired.

Nos. 212 and 216 are for standard house doors, normal clearance, with roller bearing.

Nos. 218 and 220 are for heavier doors, mirrors, folding partitions, metal, etc., with roller bearings.

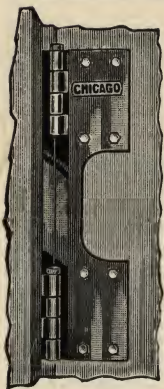
Standard finish is dull brass.

Can be furnished in special finishes at an additional cost.

Packed in box with wood screws.

No.	Per Pair	Length Plates Inches	Width Plates Inches	Depth Mortise Inches	Thickness Wood Required Inches	Clearance when Open Inches	Pair in Box	Wt. Lb. per Box
101	\$1.78	11½/16	3/8	1/2	1/2-5/8	9/32	12	2
203	1.49	13/4	1/2	23/32	3/4	23/64	12	31/8
204	2.10	23/8	1/2	23/32	3/4	23/64	6	23/4
208	2.92	23/4	5/8	29/32	7/8	29/64	2	11½
212	5.73	33/4	3/4	15/16	1 1/8	17/32	1	15 8
216	8.04	45/8	1	17/16	13/8-11/2	23/32	1	31½
218	8.80	45/8	11/8	119/32	15/8-13/4	7/8	1	4
220	12.23	51/2	13/8	115/16	17/8-2	11/16	1	7

Chicago Hi-Duty Spring Butt-Hinges
Double Acting



For extra heavy doors in trucking doorways; for right or left-hand doors.

Constructed of heavy, cast malleable iron, unpolished.

Spring of the hinge is located between door and casing so it is protected from trucks as they pass through the doorway. Does not project beyond surface of door.

Hinge has a multiple of large bearings to carry weight of door. Pins are securely held in place by a pin locking device. Clamp flange is an integral part of the hinge.

Has two axes which permits opening door 180 degrees.

If door thickness is greater than hinge size, use next size larger hinge and specify exact door thickness so clamp flange can be made to fit.

Furnished with hexagonal head bolts and nuts for door clamp flange and machine screws for casing flange.

When ordering, specify finish No., hinge size and thickness of door.

Size.....	inches	A	B	C
No. CS1-F1D, Dead Black, Jap.	per pr.	.....	.....	.....
No. CS1-FP, Prime Coated.....	per pr.	.....	.....	.....
No. CS1-F2, Dull Zinc Pltd.	per pr.	.....	.....	.....
No. CS1-F2H, Zinc, Hot Dipped.	per pr.	.....	.....	.....
For Max. Door Thickness.....	inches	1¾	2¼	2¾
Width Leaf to Ctr. of Pin.....	inches	3¾	4	4½
Length Overall.....	inches	15¾	20¾	23¾
Approx. Weight per Pair.....	pounds	28	52	72

No. 35 Chicago Hi-Duty Spring Steel Buffers
With Shock Absorber Keeper

For doors in trucking doorways; for right or left-hand doors. Suitable where there are two doors to a doorway and hung double acting.

Wide spring steel band resists heavy shock. Wide enough for various heights of truck bumpers. One end of buffer slides in a keeper which reduces shock to door, hinges and fastenings. Specify thickness of door, to indicate length of fastening bolts required.

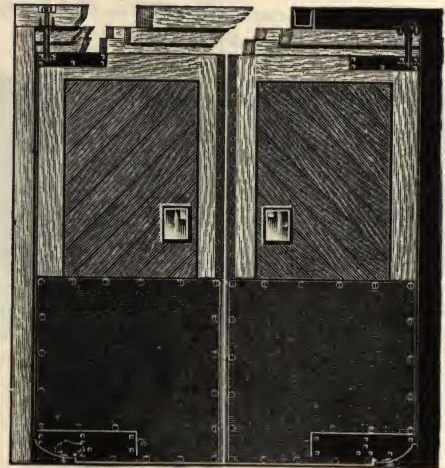
Furnished four buffers and keepers per set.

Packed 1 set in a carton with fastenings.

Weight, 42 pounds.

No. 35FP, Primed for Painting.....	per set	.....
No. 35F2, Dull Zinc Plated.....	per set	.....

Shelby Double-Acting Gravity Hinges



Door with Wood
Heading and Jamb

Door with Channel
Heading and Jamb

For all kinds of heavy double acting doors in warehouses, factories, bakeries, laundries, loading platforms, post offices, and wherever materials are moved on trucks through pairs of double acting doors.

Modern air conditioning requires interdepartmental and exterior doors be kept closed; gravity hinge opens easily by pushing and closes quickly without using any complicated mechanism. This hinge is built for rough use and will stand the impact of trucks being pushed through without first opening the doors. The working parts are few and require very little attention.

No special jambs or hanging strips are needed. The entire weight of the door rests on a carburized tapered steel roller which rolls on the heavy iron floor casting. The top pivot does not support any of the weight of the door.

Large door plates and edge binding are not furnished.

Hinges as shipped are non-holdopen; if holdopen is desired, insert the hardened pins which are furnished into the cast iron bases. All necessary bolts are furnished; sets for wood heading are packed with lag screws and shields for concrete sill; sets for channel heading are packed with machine bolts for channel sill.

Shipping weight, 78 pounds per set of two hinges for a pair of doors.

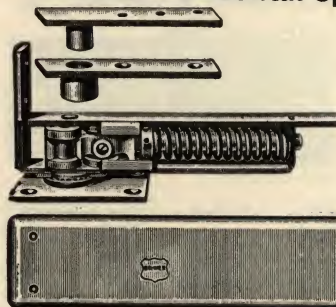
For Doors 3 Feet Wide and Narrower

Wood Heading No.....	G1	G2	G3
Channel Heading No.....	G1½	G2½	G3½
Per Set (Pair of Doors).....	\$48.15	48.15	48.15
Thickness Doors.....inches	1¾	1⅞	2¼

For Doors Over 3 Feet Wide with Special Reinforced Top Pivots

Wood Heading No.....	G4	G5	G6
Channel Heading No.....	G4½	G5½	G6½
Per Set (Pair of Doors).....	\$56.80	56.80	56.80
Thickness Doors.....inches	1¾	1⅞	2¼

Bommer Horizontal Spring Pivot Hinges



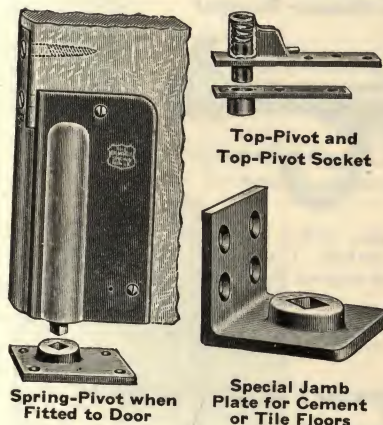
For doors 1½ to 1¾ inches. Holds door open when swung beyond 90 degrees.

Made of steel, planished. Spring is made of best oil-tempered steel wire. Adjustable tension. Weight of door is carried on hardened tool steel ball bearings. Reversible side plates.

Alignment of door can be adjusted after door is in place.

Packed 1 set in a box with screws; weight, 3¾ pounds.	
No. 15, Dead Black or Prime Coat.....	per set \$4.76
No. 615, Dull Brass.....	per set 5.08

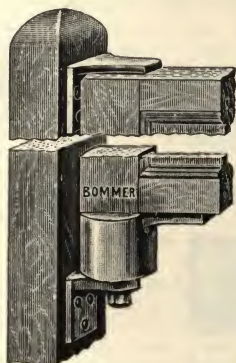
No. 14 Bommer Vertical Spring Pivot-Hinges



Double Action
For doors $1\frac{3}{4}$ to $2\frac{3}{4}$ inches thick.
Planished steel.
Using a stop bead on door-casing will swing door one way. Hardened tool-steel ball bearings in upper part of pivot-frame. Spring of oil-tempered steel wire. Tension adjustable to suit after door is in place. Top-pivot has spring-actuated plunger which permits door to be taken down without unscrewing.

From center of spindle to door casing, $2\frac{3}{16}$ inches.
Packed 1 set in a box with screws.
No. 14J, Japanned Dead Black Finish.....each \$20.08

Bommer Non-Sagging Spring Pivot Hinges



For right or left hand office gates, $1\frac{1}{8}$ to $2\frac{1}{2}$ inches thick, either double or single-acting gates. Brackets $1\frac{1}{4}$ inch wide.

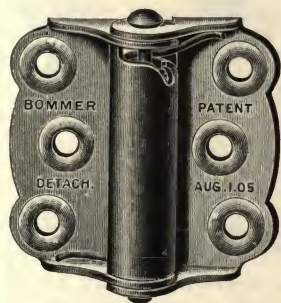
Back edge of gate is slightly rounded. Can be furnished with bottom bracket inverted and cup to be mortised into gate, with arm at bottom, if specially ordered.

Packed 1 set in a box, with screws. Weight per set $3\frac{1}{4}$ pounds.

No. 11, Cast Iron, Dead Black Japanned Finish.....per set \$8.48

No. 611, Polished Dull Brass Finish.....per set 12.60

Bommer Screen-Door Spring Hinges Detachable



To detach this hinge, open the door and push the end of the spring down into the hook on the barrel and withdraw the pintle; then take the door down without unscrewing.

This hinge is made from wrought steel, and has enclosed oil tempered steel coil spring. Furnished with screws to match.

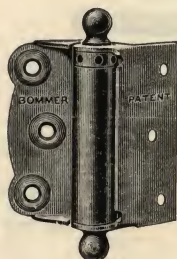
Size, $2\frac{3}{4} \times 2\frac{3}{4}$ inches.

Packed, 12 pairs in a box; 144 pairs in a case.

Weight per dozen pairs, $7\frac{1}{8}$ pounds.

No.	Description	Per Dozen Pairs
960	Japanned Dead Black, without Screws.....	\$5.15
960 $\frac{1}{2}$	Japanned Dead Black, with Screws.....	6.94
961	Bronze Plated, with Screws.....	8.65
962	Antique Copper Finish, with Screws.....	8.65
963	Dull Brass Finish, with Screws.....	8.65

Bommer Half Surface Spring Hinges



Made of heavy wrought steel. Size, 3×3 inches. Has adjustable tension.

The coil-spring is entirely enclosed. It is made of the best oil-tempered steel wire.

One leaf is fastened to the casing, the other leaf is fastened to the surface of the door.

Packed 1 pair in a box with screws to match.

Weight per pair, $1\frac{1}{4}$ pounds.

No. 2200, Japanned Dead Black.....	per pair	\$2.26
No. 2203, Dull Brass.....	per pair	2.48
No. 2204, Nickel Plated.....	per pair	2.98
No. 2209, Galvanized, Zinc Plated.....	per pair	2.48

Bommer Heavy Wrought Metal Screen-Door Spring Hinges

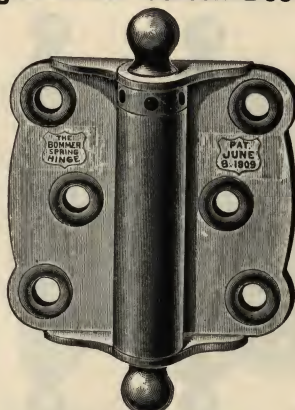
Has adjustable tension. The coil-spring is entirely enclosed and is made of the best oil-tempered steel wire. This hinge is of excellent workmanship and finish, and is made of heavy metal. The tension of the spring can be regulated after the hinge is applied to the door.

Made of planished steel.

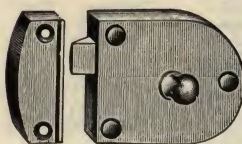
No. 2100, Jap'd Dead Black.....per pair \$2.26

No. 2103, Dull Brass.....per pair 2.48

No. 2104, Nickel-Plated.....per pair 2.98



No. 05401 Sager Secret Gate Latches



For single-acting gate.

Made of cast iron. Size of case, $2 \times 2\frac{1}{2} \times 3\frac{3}{4}$ inches.

Reversible. If specified, can be furnished with mortise strike for gate opening out.

Packed 6 in a box with screws.

No. 05401x010, Bright Japan.....per dozen

Bommer Door Springs



For closing doors automatically.

Japanned bright black finish.

Coil springs are made of high-grade steel wire, head is of iron. Tension

is adjustable and can be conveniently regulated after the door spring is in place on the door with the aid of a wire nail or rod.

Sold completely assembled; parts cannot become separated from each other. Special tools are not required.

Packed without screws.

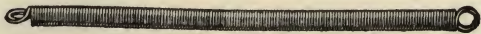
No.	2500	2510	2520
Per Dozen.....	\$7.48	10.06	15.68
Length Overall.....	7	8	10
No. in Box.....	12	6	6
Weight per Dozen.....	6 $\frac{1}{2}$ pounds	12 $\frac{5}{8}$	19

When Ordering

Please refer to the sizes and numbers shown in this book. It will help us in filling your order accurately.

USS American Perfection Door Springs

Double Wire Loop Ends, Japanned



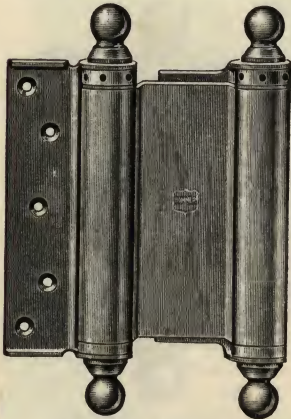
The best steel is used in the manufacture of this spring, insuring permanent resiliency and freedom from breakage. For screen doors or other doors; simple, easily applied. Two screw-hooks are all that are required to attach.

Packed 1 dozen in a box, with japanned screw-hooks, 1 to 5-gross cartons.

No.	Per Gross	Size Wire Inches	O.D. Spring Inches	Length Coil Inches	Length Overall Inches	Weight Pounds per Gross
1039	17/64	15 7/8	16 3/8	15
2039	19/64	15 3/4	16 3/8	21
3049	11/32	15 5/8	16 3/8	27
4056	3/8	15 5/8	16 3/8	33
5060	7/16	15 5/8	16 1/2	39
6067	1/2	15 5/8	16 1/2	48
7076	9/16	15 5/8	16 1/2	60

Bommer Ever Ready Spring Hinges

Double Action



The elimination of the hanging-strip simplifies the fitting of the door.

Made of wrought steel, planished. The barrels and their connecting plate are integral and made of a thick, solid, strong plate of metal of full and even thickness throughout

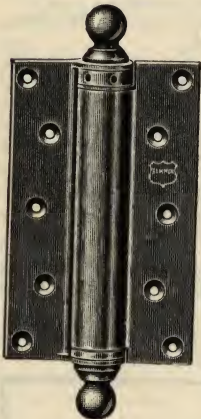
The springs are of large diameter and unusual length, made of the best oil-tempered steel wire.

Packed 1 pair in a box with screws to match.

Size In.	Japanned Dead Black		Dull Brass		Nickel Plated		Thickness of Door Inches	Wt. Lb. per Pair
	No.	Per Pr.	No.	Per Pr.	No.	Per Pr.		
3	3029	\$6.66	3629	\$9.00	3879	\$11.88	3/4 to 1	2 1/2
4	3030	7.92	3630	10.80	3880	14.22	7/8 to 1 1/4	3 3/4
5	3033	9.36	3633	12.60	3883	17.10	1 1/8 to 1 1/2	5 3/4
6	3036	11.52	3636	16.02	3886	20.72	1 1/4 to 1 3/4	8 3/4
7	3039	14.76	3639	20.72	3889	26.66	1 3/8 to 2	12
8	3042	21.44	3642	29.54	3892	36.74	1 1/2 to 2 1/4	17 1/4

Bommer Standard Spring Hinges

Single Action



Regularly made to close door, but when specially ordered, can be furnished with reverse spring to swing door open.

Made of wrought steel, planished. Adjustable spring tension.

The barrel and its leaf are one solid thick plate of metal. The two flanges are flush-faced, without projecting top and bottom edges.

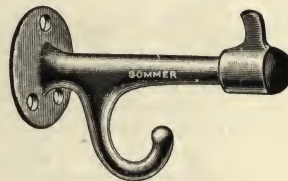
Bronze plated, antique copper, or galvanized are the same price as dull brass. Sanded finishes are the same price as nickel plated.

Packed 1 pair in a box with screws.

Size In.	Japanned Dead Black		Dull Brass		Nickel Plated		Thickness of Door Inches	Wt. Lb. per Pair
	No.	Per Pr.	No.	Per Pr.	No.	Per Pr.		
3	0	\$3.96	600	\$5.22	850	\$7.20	3/4 to 1	1 1/2
4	1	4.86	601	6.48	851	8.46	7/8 to 1 1/4	2
5	5	5.58	605	7.56	855	10.26	1 1/8 to 1 1/2	3
6	9	6.84	609	9.54	859	12.42	1 1/4 to 1 3/4	4 1/2

No. 5030 Bommer Lavatory Door Coat and Hat Hooks

With Rubber Bumper

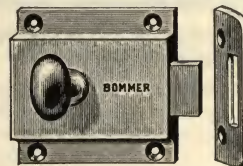


Made of polished brass, nickel plated.
Base diameter, 1 7/8 inches. Projection, 3 3/4 inches.
Furnished with wood screws.

No. 5030.....each \$3.46

For bronze or brass highly polished, same price; for chromium plated, bright or dull finish.

Bommer Lavatory Door Rim Bolts



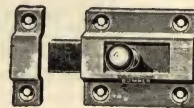
Made of polished brass, nickel plated.
Size of case, 2 1/2x2 5/8 inches; bolt, 7/8x1/4 inches; face to center of handle, 1 5/8 inches.
Furnished with screws.

No. 5009, Rim Bolt without Keeper.....each \$6.26

No. 5009K, with No. 9 Keeper.....each 6.48

For bronze or brass highly polished, same price; for chromium plated, bright or dull finish.

Bommer Lavatory Door Rim Bolts



Made of polished brass, nickel plated.
Plate, 2x2 inches; bolt, 2 3/4x9/16x3/16 inches.
Furnished with screws.

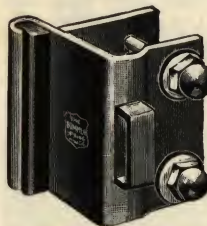
No. 5004, Rim Bolt without Keeper.....each \$2.80

No. 5004K, with No. 4 Keeper.....each 3.02

For bronze or brass highly polished, same price; for chromium plated, bright or dull finish.

No. 1055 Bommer Lavatory Door Strikes

With Keeper



For door opening in.

For use with Nos. 5003, 5004, 5006, 5008 and 5009 rim bolts.

When ordering, specify No. of latch or bolt which strike is to be used and thickness of hanging-stile and door.

Packed 1 in a box with bolts.

No. 1055 Nickel Plated.....each \$6.26

For bronze or brass highly polished, same price; for chromium plated, bright or dull finish.

No. 1072 Bommer Lavatory Door Strikes



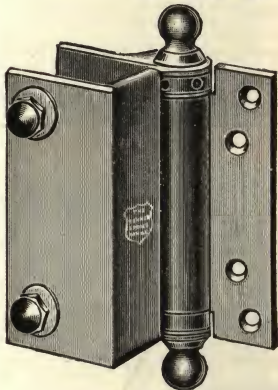
Made of polished brass, nickel plated.
Applied on edge of door or partition.

No. 1072.....each \$1.72

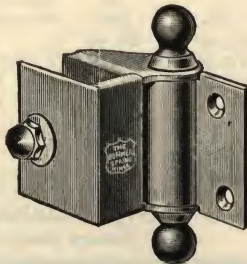
For bronze or brass highly polished, same price; for chromium plated, bright or dull finish.

Bommer Clamp-Flange Lavatory Hinges

With One Adjustable Clamp-Flange



No. 1000



No. 01000

No. 1000 Single Action Spring Hinges

For lavatory doors on marble, slate or glass partitions having hanging-stile. Used on either right or left-hand doors opening in or out. Suitable for partitions 1, 1¼, 1½, 1¾, and 2 inches thick, adjustment of ½-inch over or under is allowed. Length of flanges, 4 inches.

Patented tension collar prevents distortion of the end of the spring or damage to the hinge barrel if wound in the wrong direction.

Made to close the door, but furnished with reverse acting spring to hold door open when so ordered.

No. 1000, Polished Brass Nickel Plated.....per pair \$21.04

No. 01000 Springless Hinges

For light and narrow single lavatory doors, a spring hinge at the top and springless hinge at the bottom may be used. Length of flanges, 2 inches.

No. 01000, Polished Brass Nickel Plated.....per pair \$14.08
Bolts and screws packed with set in a box.

When ordering, specify thickness of hanging stile and door.

No. 7406 Champion Coat and Hat Hooks



Made of east aluminum alloy, planished. Projection, 3 inches. Upper prong is almost horizontal, permitting location under and close to shelf.

Packed 2 dozen in box with ⅞x7 flat head screws to match. Weight per box, 2 pounds.

No. 7406C, Dull Brass.....per gross
No. 7406H, Dead Black.....per gross
No. 7406N, Nickel Plated.....per gross
No. 7406J, Japanned.....per gross

No. 7306 Champion Coat and Hat Hooks



Made of cast aluminum alloy, planished. Projection, 3 inches. Packed 12 in a box with ⅞x7 flat head screws to match; weight, 5 pounds.

No. 7306C, Dull Brass.
No. 7306N, Nickel Plated.
No. 7306J, Japanned.

No. 7396 Champion Costumer Hooks



Cast aluminum alloy, machine polished. Projection, 3½ inches. Packed 12 in a box, 1 gross in a case, complete with screws. Weight 18 pounds per case.

No. 7396C, Dull Brass Plated Finish.....per dozen \$3.36

No. 7396H, Dead Black Finish.....per dozen 3.36

No. 3434 Corbin Coat and Hat Hooks



Projection, 3½ inches; base, 2½x⅝ inches; height, 5¾ inches.

Made of cast iron, plated.

Packed 2 dozen in a box with screws.

Weight per dozen, 3½ pounds.

No. EA3434, Dull Brass.....per dozen

No. 7506 Champion Ceiling Hooks



For use under shelving. For metal lockers, may be attached with machine screws.

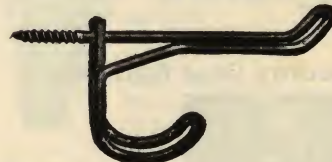
Made of cast aluminum alloy, planished. Projection, 2⅝ inches. With ⅞x7 FH screws.

Packed 2 dozen in a box with screws.

Weight per box, 3¾ pounds.

No. 7506J, Japanned.....per dozen

No. 1013 Androck Coat and Hat Hooks



Made of No. 10 wire.

Size, 3 inches.

Packed ½ gross in a box.

Weight per gross, 8.6 pounds.

No. 1013, Coppered.....per gross

No. 82 Washburn Ceiling Hooks



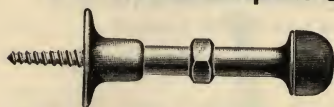
A strong, serviceable hook of high quality.

Made of No. W&M. 10 wire.

Packed ½ gross in a box, 6 gross in a shipping carton. Weight per gross, 8.6 pounds.

No. 82, Black.....per gross

No. 4306 Champion Cast Base Knobs



Cast aluminum alloy with steel screw. Rubber tip is easily replaced.

Projection, 2 $\frac{5}{8}$ in.

Packed 12 in a box. Weight per box, 1 $\frac{3}{4}$ pounds.

No. 4306C, Dull Brass Plated.....per gross
No. 4306H, Dead Black Plated.....per gross
No. 4306N, Nickel Plated.....per gross

No. 573 Payson Door Stops and Holders

Cast Iron



Projection, 3 $\frac{1}{8}$ inches.

Available in all standard finishes.

Packed 1 dozen in a box. Weight per dozen, 1 $\frac{3}{4}$ pounds.

No. 573.....per dozen
For solid brass or bronze, add prefix 0 to No.

No. 562 Payson Door Stops and Holders

Cast Iron



Height, 1 $\frac{1}{4}$ inches; projection, 1 inch.

Separate screw can be used with expansion shield.

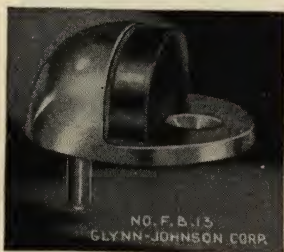
Available in all standard finishes.

Packed 1 dozen in a box.

Weight per dozen, 1 $\frac{1}{2}$ pounds.

No. 562.....per dozen
For solid brass or bronze, add prefix 0 to No.

Dome Type Door Bumpers



No. FB-13

Facilitates sweeping and cleaning. Designed for permanent anchorage.

No. FB-13 for doors without threshold; No. FB-14 for doors with threshold.

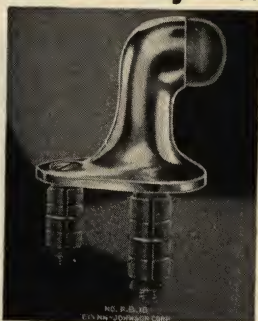
Dull or polished finish.

Packed 12 in a box with wood screws.

No.	*FB-13	FB-14
Cast Bronze or Brass.....per dozen	\$17.00	21.00
Aluminum.....per dozen	14.00	19.00
Height.....inches	1	1 $\frac{3}{8}$
Size Base.....inches	2	2
Weight per Dozen.....pounds	4 $\frac{3}{4}$	6 $\frac{1}{4}$

*With rawl plug.

Glynn-Johnson Sturdy Door Bumpers

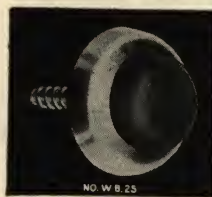


No. FB-18X

Made of cast brass or bronze with threaded in rubber tip. Two-point anchorage; will not twist out of alignment.

No.	With Wood Screws		With Expansion Shell	
	FB-18	FB-19	FB-18X	FB-19X
Per Dozen.....	\$32.30	37.25	42.25	44.70
Height.....inches	2 $\frac{1}{8}$	3	2 $\frac{1}{8}$	3
Base.....inches	2 $\frac{1}{2}$	2 $\frac{3}{4}$ x1 $\frac{3}{4}$	2 $\frac{1}{2}$	2 $\frac{3}{4}$ x1 $\frac{3}{4}$
No. in Box.....	6	6	6	6
Weight per Box....lb.	2 $\frac{1}{2}$	6	2 $\frac{1}{2}$	6

Flush Bumpers



No. WB-25



Nos. WB-5 and WB-55

Made of bronze or brass. Molded rubber bumper is inserted from the back into a flange rosette.

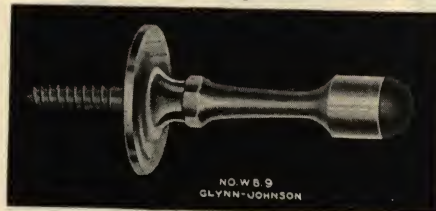
Rosette is screwed into a threaded disk which is anchored to the door or wall.

No.	Per Dozen	Size Base Inches	Projection Inches	Description	No. in Box	Weight Pounds per Box
WB-25	\$8.40	1	1 $\frac{1}{2}$	Wood Screw	12	3 $\frac{1}{4}$
WB-25	*9.20	1	1 $\frac{1}{2}$	Wood Screw	12	3 $\frac{1}{4}$
WB-5	22.80	2 $\frac{3}{8}$	1	Wood Screw	6	1 $\frac{3}{4}$
WB-5X	28.80	2 $\frac{3}{8}$	1	Expansion Shield	6	1 $\frac{3}{4}$
WB-55	36.00	4	3 $\frac{1}{4}$	Wood Screw	6	3 $\frac{1}{2}$
WB-55X	39.60	4	3 $\frac{1}{4}$	Expansion Shield	6	4

*Nickel plated.

Glynn-Johnson Wall Bumpers

Heavy Duty Cast Bronze or Brass



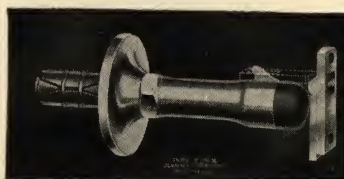
No. WB-9

For residential and commercial buildings. Equipped with loss-proof threaded-in rubber bumper.

No.	With Wood Screws		With Expansion Bolt	
	WB-10	WB-11	WB-10X	WB-11X
Per Dozen.....	\$19.20	21.60	21.60	24.00
Size Base.....inches	2	2	2	2
Projection.....inches	2 $\frac{1}{2}$	3 $\frac{3}{4}$	2 $\frac{1}{2}$	3 $\frac{3}{4}$
No. in Box.....	6	6	6	6
Weight per Box....lb.	2 $\frac{1}{2}$	3	2 $\frac{3}{4}$	3 $\frac{1}{2}$

Door Holders and Bumpers

Wall Type



No. W-20X

Made of cast bronze or brass. Projection, 3 $\frac{1}{2}$ inches, with hook engaged, 4 inches. Diameter of base, 2 $\frac{1}{2}$ inches.

Collapsible strike plate hook does not protrude; breakage is eliminated.

Equipped with loss-proof threaded in rubber bumper. Brushed or polished finish.

Packed 6 in a box. Weight per box: No. W-20, 6 pounds; No. W-20X, 7 $\frac{1}{2}$ pounds.

No. W-20, with Wood Screw.....each \$4.75
No. W-20X, with $\frac{5}{16}$ -Inch Steel Stud and Shield.....each 5.45

Rubber Shoes



For Hercules, Excel and Security door holders.

Holder cuts own thread in shank of shoe.

Packed 12 in a box.

Per Dozen.....\$2.40

Semi-Automatic Door Holders and Bumpers

Engages and releases door automatically. By flipping, the tongue acts as a stop and resilient bumper through the action of an encased plunger. Hook extension acts as strike plate.



No. F-9

Made of cast bronze or brass.

Brushed or polished finish.

	With Wood Screws	With Steel Stud and Shield
No.	F-8	F-9 F-10
Each.	\$9.30	10.35 20.20
Height. in.	3 1/4	3 1/4 5
Base. in.	2 3/4	2 3/4 5
Stud. in.	1/2	5/8
No. in Box	6	4 2
Wt. per Box. lb.	7 3/4	7 11

Door Holders and Bumpers Floor Type

Design of holder eliminates side thrust. Two-point anchorage assures permanent installation.

Equipped with loss-proof threaded in rubber bumper.

Made of cast bronze or brass.

Height overall, 3 inches, Height to center of bumper, 2 3/8 inches. Size base, 3x2 1/2 inches

Brushed or polished finish.

Packed 6 in a box.

Weight per box, 6 pounds.

No. F-20, with Wood Screws. each \$5.20
No. F-20X, with Stud and Expansion Shields. each 5.85



No. F-20 X

Hercules Door Holders

Made of cast bronze or brass.

Equipped with slip-proof threaded in rubber shoe.

Holder is held upright by a fool-proof enclosed action.

Packed 6 in a box.

	Dull or Polished	
No.	4	5
Per Dozen.	\$36.00	39.60
Floor Clearance. in.	2 or Less	3 1/2 or Less
Height. in.	4	5
Wt. Box. lb.	3 1/2	3 3/4

	Emery or Dead Black	
No.	4-S	
Per Dozen.	\$30.00	
Floor Clearance. inches	2 or Less	
Height. inches	4	
Weight per Box. pounds	3 1/2	



Glynn-Johnson Excel Door Holders

Made of cast bronze or brass.

Equipped with slip-proof threaded in rubber shoe.

Holder is held upright by a fool-proof enclosed action.

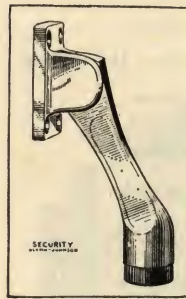
Packed 6 in a box.

	Polished or Brushed Finish	
No.	44	45
Per Dozen.	\$30.00	\$33.60
Floor Clearance. in.	2 or Less	3 1/2 or Less
Height. in.	4	5
Wt. Box. lb.	4	5

	Emery Finish	
No.	44A	45A
Per Dozen.	\$26.40	\$30.00
Floor Clearance. in.	2 or Less	3 1/2 or Less
Height. in.	4	5
Wt. Box. lb.	4	5



No. GJ 444 Security Door Holders



A sturdy inexpensive door holder made of iron, rustproofed. Threaded-in, slip-proof rubber shoe.

Furnished in brass, bronze or aluminum gilt and dead black finishes.

Packed in individual template envelopes with wood screws.

Packed 1 dozen per carton.

Approximate shipping weight, 9 pounds per dozen.

No. GJ 444. per dozen \$13.20

Plunger Type Door Holders



Holds door by pressure of foot on stem of the plunger; released by trip plate at the top. Has double spring tension for gripping floor.

Rubber shoe, which is held in place by means of a threaded knurled ferrule prevents rubber from being pulled out.

Packed 6 to a container; approximate shipping weight, 9 1/2 pounds.

No. 1150

Made of cast bronze. Size, 7 inches. Throw, 1 1/4 inches.

Dull or polished finish.

No. 1150. each \$5.70

No. 1151

Made of iron. Size, 7 inches. Throw, 1 1/4 inches.

Black or brass gilt finish.

No. 1151. each \$3.85

Superior Door Holders

Holds door firmly in any position, in both directions, and on any floor surface. A heavy compression spring behind rubber tip assures holding the door firmly.

Install on either side of door, but usually installed on inside of door.

Plunger rods are of 1/2-inch cold rolled steel in rustproof bright nickel. Release plates are of casehardened steel in rustproof bright nickel.

Packed 6 in a box with screws to match.

When ordering state finish with door holder number.



	For Ordinary Doors	For Heavy Doors
Size No.	2	3
Height. inches	7	9
Reach. inches	1 1/2	2 1/2
Weight, per Dozen. pounds	16	25

Unpolished Iron

	Dead Black	Size	Size	For Ordinary Doors	For Heavy Doors
No.	No. 2	No. 3	No. 2	No. 3	No. 3
Per Dozen.	\$24.00	33.00	24.00	33.00	33.00

Polished Iron

	Size No. 2	Size No. 3
No.	22	23
Bright or Dull. per dozen	\$33.00	45.00

Cast Brass and Bronze

	Cast Bronze	Cast Brass	Pol. Chrome	Size	Size
No.	No. 2	No. 3	No. 2	No. 3	No. 3
Bright or Dull	62	63	72	73	262
per dozen	\$48.00	66.00	48.00	66.00	54.00

Extra Rubbers

	Size No.	Size No.
No.	2	3
Per Dozen.	\$3.60	4.80
Diameter. inches	1 5/16	1 1/8

Corbin Door Holders



With rubber tip on bolt head.
Size, $7\frac{3}{4} \times 2\frac{1}{8}$ inches. Throw, $1\frac{1}{8}$ inches.
Packed 3 in a box with screws.

No. 2860 Cast Brass

Weight per dozen, $14\frac{3}{4}$ pounds.

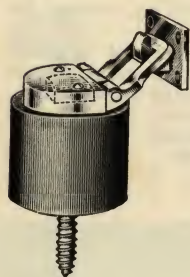
No. EA2860, Dull Finish.

No. 3860 Cast Iron

Weight per dozen, 15 pounds.

No. EA3860, Dull Brass Finish.

No. 0577 Payson Door Stops and Holders



Cast Brass or Bronze

For single door.

Solid rubber bumper: diameter, 3 inches; height, 2 inches.

Ship finish unless otherwise specified.

Packed with wood screws, lag screw and expansion shield; specify machine screws if required.

No. 0577.....each

Ives Door Stops and Holders Burnished Cast Iron—With Screws



No. 93F4



No. 94F4

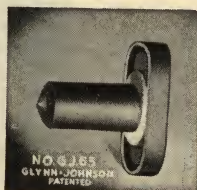
Packed 1 dozen in a box.

No.	93F4	94F4
Dull Brass Finish.....per doz.	\$9.36	\$11.84
Base.....inches	$1\frac{1}{8} \times 1$	$1\frac{3}{4} \times 2\frac{3}{8}$
Spring Base.....inches	$\frac{3}{4} \times 2\frac{3}{16}$	$\frac{3}{4} \times 2\frac{3}{16}$
Projection.....inches	$\frac{23}{4}$	.....
Height.....inches	.....	$1\frac{3}{4}$
Weight per Dozen.....pounds	$3\frac{15}{16}$	$4\frac{5}{16}$

Pneumatic Rubber Door Silencers



No. G-J64 For Metal Frames



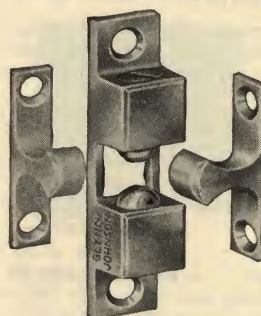
No. G-J65 For Wood Frames

For silencing doors and latch rattle.

Install 3 silencers per door in stop strip. Grey rubber. Instructions packed with silencers.

No. G-J64, for Metal Frames.....per dozen \$1.10
No. G-J65, for Wood Frames.....per dozen 1.10

No. G-J 21A Four-Way Catches



For closet doors, wardrobe doors, grills, and heavy openings that are hinged.

Can be mortised or surface mounted. It pulls and holds the door closed. Spring tension on the two steel balls is adjustable.

Body and stud made of extruded bronze.

Size, $3 \times \frac{3}{4}$ inch; depth, $\frac{3}{4}$ inch; overall projection, hook engaged, $\frac{7}{8}$ inch.

Equipped with plate hook for flush installation.

Supplied with wood or machine screws.

No. G-J 21A, Polished or Dull Finish.....each \$2.80
No. G-J 21A, Plated Finish.....each 3.10
No. G-J 21A, Chromium Finish.....each 3.40

Series G-J70 Overhead Door Holders



Doors engaged and released automatically. Hold-open action can be set to neutral position; holder then acts as a stop and shock absorber.

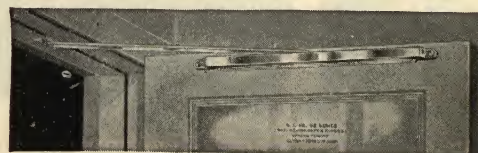
Adjustable hold-open action for various types of doors and wind conditions. Bronze pivots and brackets with steel bar, cadmium or bronze plated.

Available with fusible link for stair doors, etc.

Packed with wood or machine screws.

No.	Sprayed Bronze, Brass Alum. or Black		Polished or Dull Bronze or Brass	
	G-J75	G-J76	G-J70	G-J71
Each.....	\$8.00	8.00	10.35	10.35
Door Size.....inches	29 to 34	35 to 40	29 to 34	35 to 40

G-J 90 Series Overhead Door Holders Surface Type with Safety Release



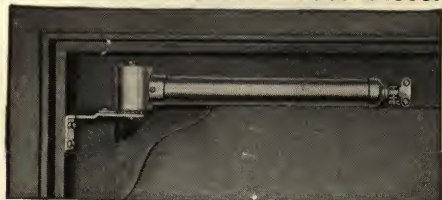
For single acting doors only. Handed, not reversible. Can be installed to hold the door at various degrees of opening, up to 110 degrees.

Action is automatic in the engagement and release of the door. Quarter turn of the control handle places the engagement in neutral position. The holder then serves as stop and shock absorber. To assure proper anchorage, oversize hex bolts and $\frac{5}{16}$ -inch machine screws are furnished for bolting through the door.

No.	For Doors Width Inches	Wt. Lb.	Pol. or Dull Bronze Each	Nickel Plated Each	Chrome Finish Each
G-J90	26 to 29	$5\frac{1}{2}$	\$23.00	\$25.30	\$27.60
G-J90	30 to 36	$5\frac{1}{2}$	25.00	27.50	30.00
G-J90	37 to 48	$5\frac{1}{2}$	27.00	29.70	32.40

Can be furnished for glass doors with continuous top rails.

No. 44 Norton Screen Door Closers



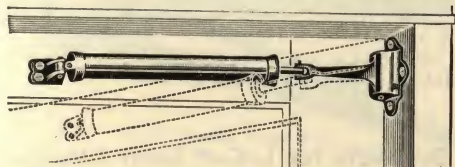
No-Slam closer strongly built to function a long period of time. Made of seamless brass. The tube will not rust. The bracket, spring holder, and hinge plate are of heavy steel stampings which will not break. The piston is constructed with a spring to hold the cup leather washer against the side walls. This assures checking at all times.

Packed in individual boxes with full instructions for applying; 12 to a carton.

Weight per carton, 30 pounds.

No. 44.....per dozen \$40.00

No. 6 Superior Silent Door Closers

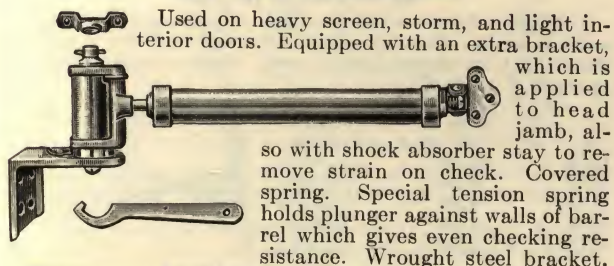


For combination screen and storm doors. Heavy Alumior-metal cylinder 10 inches long and 1¼-inch diameter. Alumior is special aluminum alloy. Piston rod ¾-inch diameter of cold rolled steel. Leather washer.

Door closer fits 2-inch space, left or right-hand doors without changing check. Air adjustment valve sensitive to fine adjustments. Door closes quickly without resistance until within 45 degrees of being closed, where it is checked and gently shut. Individually boxed with screws and directions. Packed 12 in a carton.

No. 6, Satin Aluminum; Wt. per Dozen, 20 Lb..each \$3.25

No. 666 Shelby Screen and Storm Door Checks and Closers Heavy Type—Air Controlled



Used on heavy screen, storm, and light interior doors. Equipped with an extra bracket, which is applied to head jamb, also with shock absorber stay to remove strain on check. Covered spring. Special tension spring holds plunger against walls of barrel which gives even checking resistance. Wrought steel bracket.

Brass barrel, 12x1½ inches. Steel plunger rod, ⅞ inch.

Packed 1 in a box, 12 in a case. Weight per case, 52 lb.

No. 666, Dull Brass Finish.....each \$5.00

No. 105 Storm King Door Closers



Accommodates storm doors and screen doors.

Patented spring cushion acts as shock absorber when door is forced or thrown open too far. Leather piston is non-collapsing and full floating. Closing speed is easily adjusted by turning valve screw. Closing spring inside tube and cushion spring are made of genuine oil tempered wire.

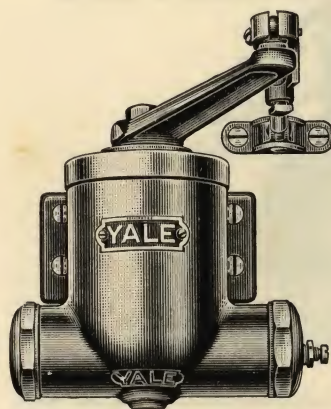
Silver spray finish.

Length overall, 16½ inches; tube, 1¼ inches.

Packed 1 in carton with directions and screws.

Weight per dozen, 21 pounds.

Model YR Yale Reversible Door Closers



Can be used on right or left-hand doors without any mechanical change except Nos. 76A and 76B which have flat ribbon springs, manually reversed. Simple two-speed adjustment for silent or release action at latch.

Closing power is obtained from a powerful coiled spring controlled by a piston moving in a cylinder filled with a special non-freezing lubricating liquid.

Key operated valve supplied at extra cost. Add prefix K to No.

Regularly furnished in brown lacquer (BL) finish; silver bronze (SB) or prime coat (PC) available at no extra cost.

Packed 1 in a box with screws, wrench and template.

*No..... 72 73 74 75 76A †76B

Max. Width Doors:

Interior..... 2'8" 3'0" 3'6" 4'0" 5'0" ...

Ext. & Vestibule:

Opening Out.. Storm 2'6" 3'0" 3'6" 4'0" ...

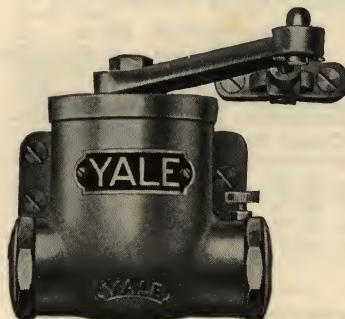
Opening In... .. 2'3" 2'9" 3'3" 3'9" ...

Weight...pounds 8½ 11 13½ 20 21 24

*Use larger closer for strong drafts, extra heavy doors or when closer is mounted nearer hinge than shown on template.

†For unusual conditions and maximum power.

No. 570 Yale Screen Door Closers Reversible



Especially designed for controlling screen and combination doors and light interior doors of residences.

Universal jamb plate for application to hinge side, or opposite to hinge side of doors of either hand without any change.

Packed 1 in a box.

Weight, 5 pounds.

No. 570BL, Brown Lacquer Finish.....each

No. 570SB, Silver Bronze Finish.....each

No. 570PC, Prime Coat.....each

Yale Door Closer Springs



For Compact and Model Y door closers. When ordering, specify spring No. and closer No.

Packed 1 in a box.

	No. 734 for Compact Closer				No. 734 for Model Y Closer				No. 19 for Model Y Closer
For Closer No.....	92	93	94	95	12	13	14	15	11
Weight.....lb.	1½	1½	2	2½	1½	1½	2	2½	¾



No. 319 Yale Model YR Springs

For Yale Door Closers

Reversible

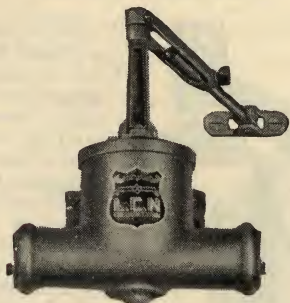
For Door Closer No... 570 71 72 73 74 75 76

No. 319.....each

Weight.....pounds ½ ½ 1½ 1¼ 1¼ 2¼ 2½

LCN Liquid Door Closers

Leakproof
Exposed Type Sizes B to F



Closer is easily adjusted for different door uses and draft conditions. Simple to convert from right to left-hand operation, or vice versa. Built for long life and economical service.

The door is always under complete control. Opens with little resistance; is prevented from swinging too far by LCN's back-check action; is closed firmly but quietly by a rugged, oversize steel coil spring; and is kept from jerking or slamming by the LCN double-piston, full rack and pinion, hydraulic checking mechanism.

Sprayed finishes: standard gold-bronze, silver bronze, dead black.

Table of Sizes

MINIMUM DOOR SIZES RECOMMENDED			USE CLOSER SIZES		
For Interior Doors Inches	For Exterior Doors, In. Out Swing	In Swing	With Regular Arm	With 90 to 140° Hold-Open Arm	With 140 to 180° Hold-Open Arm
32	Not Suited	Not Suited	B-Reg	B-H90	B-180
36	30	27	C-Reg	C-H90	C-180
48	36	33	D-Reg	D-H90	D-180
54	42	39	E-Reg	E-H90	E-180
60	48	44	F-Reg	F-H90	F-180

Above sizes are for normal conditions.

With Regular Arm			With Hold-Open Arm		
Size	Each	Approx. Ship. Wt. Pounds	Size	Each	Approx. Ship. Wt. Pounds
B-Reg.	\$17.10	10	B-H90 or B-H180	\$20.24	12
C-Reg.	20.80	14	C-H90 or C-H180	23.88	16
D-Reg.	24.92	16	D-H90 or D-H180	28.10	18
E-Reg.	33.22	21	E-H90 or E-H180	36.36	23
F-Reg.	41.48	22	F-H90 or F-H180	44.60	24

LCN Door Closer Brackets

Size	B	C	D	E	F
No. 10 Soffit Bracket...ea.	\$2.75	3.14	3.96	4.73	5.06
*No. 11 Corner Bracket...ea.	\$2.75	3.14	3.96	4.73	5.06
No. 16 Corner Bracket...ea.	\$2.75	3.14	3.96	4.73	5.06

*For closers with 140-180° hold-open arm.

LCN Checking Liquid

Developed to give the best possible service.

No other liquid should be used with LCN Door Closers.

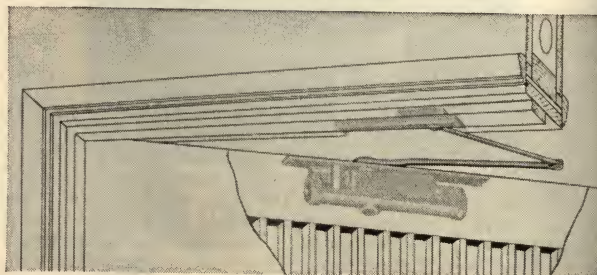
Size	Each	Size	Each
1 Pt.	\$1.45	1/2 Gal.	\$4.40
1 Qt.	2.60	1 Gal.	7.50

LCN Silver Band Coil Springs



Size	A	B	C	D	E	F
Each	\$1.40	1.80	2.35	3.00	4.00	5.60

LCN Single-Acting Overhead Concealed Door Closers



Meets the wide demand for a concealed closer for use with light to medium weight interior doors of wood or metal.

Overall dimensions, 11 3/4 x 1 3/8 x 2 5/8 inches.

No. 302 for interior doors to 2 feet 6 inches by 7 feet by 1 3/4 inches.

No. 303 for interior doors to 3 feet by 7 feet by 1 3/4 inches.

No. 302 or 303, without Hold-Open Feature...each \$27.30

No. 302H or 303H, with Hold-Open Feature...each 31.00

Prime coat finish; for plated finishes, add \$3.72.

Installation templates on request.

Brackets for L-C-N Door Closers

No. 10 Soffit Bracket

Where opening requires closer applied on a bracket and conditions permit, the use of the soffit bracket is recommended, as it places the closer out far enough from the hinge to allow the maximum leverage of arms to control the door.

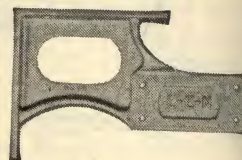


No.	Sprayed Finish Each	Base Inches	No.	Sprayed Finish Each	Base Inches
B-10	\$3.40	1 3/8 x 3 5/8	E-10	\$5.88	1 3/8 x 5 1/8
C-10	3.90	1 3/8 x 4 1/8	F-10	6.30	1 3/8 x 5 1/8
D-10	4.90	1 3/8 x 4 3/4			

No. 16 Corner Bracket

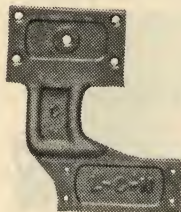
For use where corner bracket is preferred instead of soffit bracket. Provides great leverage because it places closer far from hinge edge of door. Permits maximum door opening of 140°.

No.	Sprayed Finish Each	Base Inches
B-16	\$3.40	1 x 5 1/2
C-16	3.90	1 1/4 x 6 1/2
D-16	4.90	1 3/8 x 6 1/2
E-16	5.88	1 3/8 x 6 1/2
F-16	6.30	1 3/8 x 6 1/2



No. 12 Flush Bracket

Used where head stop and jamb are not wide enough to permit use of the soffit bracket.



No.	Sprayed Finish Each	Base Inches
B-12	\$3.40	2 3/8 x 3 1/2
C-12	3.90	2 5/8 x 4 1/4
D-12	4.90	2 5/8 x 4 3/4
E-12	5.88	2 5/8 x 4 3/4
F-12	6.30	3 x 5

Norton Door Closer Filling Liquid

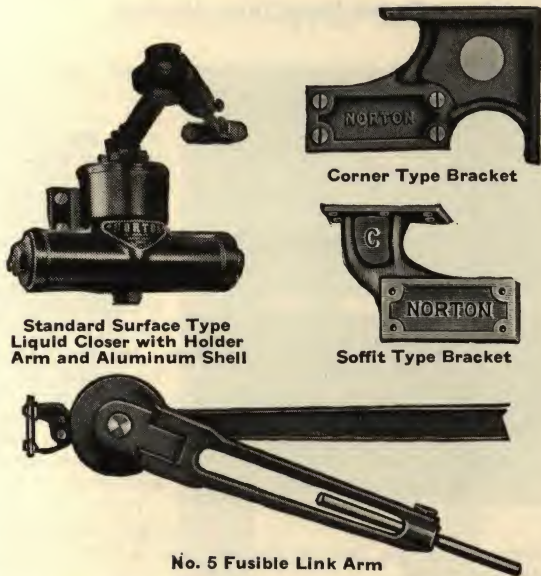
A mineral oil which lubricates and does not evaporate. Will not thicken up and hamper the operation of the closer.

1-Quart Can...each \$2.00

1-Gallon Can...each 6.94



Norton Door Closers



Rack and pinion type closer, which keeps the door under control throughout the entire closing movement.

Rolling action of teeth moves piston smoothly. A separate adjustment is provided at the latch, for noiseless closing or dealing with various latch and draft conditions encountered in service. Rack and pinion action prevents surge or slam, without strain on hinges or doors.

Checking and lubricating liquid is a special high-grade mineral oil. A completely leakproof shaft and packing nut have been developed. Accurate machining holds the maximum clearance between shaft and bearing to .00125 inch—just enough to allow oil to pass for lubrication.

Standard finishes, brown, black, prime coat. Gold and aluminum bronze furnished at no extra cost.

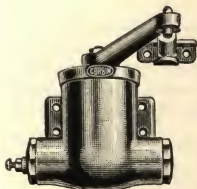
Regular Type Closers Each	Holder Arm Closers Each	No. 5 Fusible Link Closers Each	90° & 180° Holder Arms Only Comp. Each	No. 5 Fusible Link Arm Only Comp. Each	*Brackets Each	†Size Closer Recom- mended for Door
B \$17.10	\$20.24	\$44.12	\$6.77	\$2.75	3'x7'x1 ³ / ₈ "	
C 20.80	23.83	44.12	7.21	\$27.56	3'x7'x1 ³ / ₈ "	
D 24.92	28.10	48.24	7.76	28.00	3'x7'x2 ¹ / ₄ "	
E 33.22	36.36	56.60	8.31	28.55	3'6"x7'6"x2 ¹ / ₄ "	
F 41.48	44.61	64.85	8.80	29.10	5.06	Extra Heavy

*Brackets available are Soffit, Corner, G.J. Corner, Extension Corner, Flush, Adjustable and Offset. **Specify when ordering.**

†Doors with heavy glass panels, doors installed with corner brackets, and doors subject to strong drafts require closers one size larger than recommended above.

No. 0 Corbin Screen Door Checks

Liquid Control



Speed of the door can be readily controlled by the adjusting screw.

Cast iron, statuary brown finish.

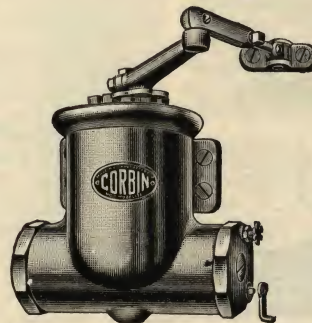
Packed 1 in a box with screws; 6 in a carton.

Weight per carton, 31 pounds.

No. 0.....each

Corbin Door Checks

Without Automatic Hold Back Attachment

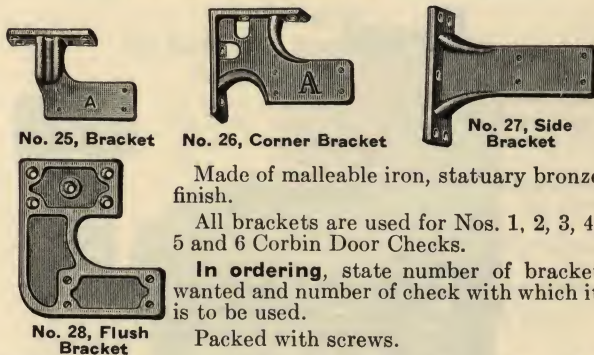


Made of cast iron; statuary brown finish.
Right or left hand without change.
Not affected by extremes of temperature.
Through a dual valve control it is possible to regulate the speed of closing of the door. It can be made to move quickly to a point near the jamb and then close slowly, or it can be made to close at a uniform rate of speed. In each case the adjustment is simple, accurate, and easy to make by means of the 2 valves.

Packed 1 in box with simple instructions.

No.	Each	Description	Wt. Lbs.
1	For Screen Doors.....	7
2	For Light Inside Doors Not over 7x2 ³ / ₈ Ft.	10
3	For Heavy Inside Doors or Outside Doors Not over 7x2 ¹ / ₂ Feet.....	14 ³ / ₄
4	For Outside Doors Not over 7 ¹ / ₂ x3 Feet....	19 ³ / ₄
5	For Doors Not over 7 ¹ / ₂ x4 Feet.....	23 ³ / ₄
6	For Extra High Doors and Extra Heavy Doors.....	28 ¹ / ₄

Corbin Door Check Brackets



Made of malleable iron, statuary bronze finish.

All brackets are used for Nos. 1, 2, 3, 4, 5 and 6 Corbin Door Checks.

In ordering, state number of bracket wanted and number of check with which it is to be used.

Packed with screws.

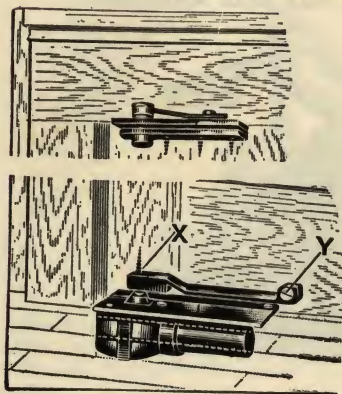
For Check No.....	1	2	3	4	5	6
Each.....

No. 139 Springs for Corbin Door Checks

The spring is light, long and resilient. The tension is evenly distributed over 20 coils of flat wire which are so made that they do not touch each other, eliminating internal friction and permitting the full power of the spring to be exerted in performing its function.

No.	For Door Check No.	Price Each
139	1	.....
139	2	.....
139	3	.....
139	4	.....
139	5	.....
139	6	.....

Rixson Floor Checks Junior Double-Acting



For use on light interior doors up to 2 feet 8 in. wide.

Automatically holds door at right angles, until released by a slight push. Can be supplied without automatic door holder, when ordered.

Finish, dull bronze.

Cast iron cement case can be furnished for use in masonry floors.

Packed 1 in carton, 12 in case.

Weight—floor check, 8½ pounds; cement case, 3 pounds.

Junior.....each \$15.00
Cement Case.....each 2.00

New Improved Double-Acting

Specially designed for pantry doors, gates in office railings, etc. Nos. 10 and 12 are for doors not over 2 ft. 10 in. wide; Nos. 15 and 16 are for doors not over 3 ft. 10 in. wide.

Finish, dull bronze. For use on light interior doors only. Cast iron cement case can be furnished for use in masonry floors.

Packed 1 in carton, 12 in case.

Weight—Nos. 10 and 12 floor checks, 10 pounds; Nos. 15 and 16 floor checks, 11 pounds; cement case, 3½ pounds.

No. 10, with Automatic Door Holder.....each \$17.00

No. 12, without Automatic Door Holder.....each 17.00

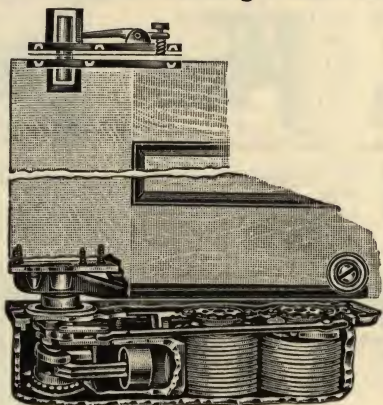
No. 15, with Automatic Door Holder.....each 20.00

No. 16, without Automatic Door Holder.....each 20.00

Cement Case.....each 2.50

We stock replacement parts for any Rixson floor check.

Rixson Double-Acting Floor Checks



No. 30 is for heavy interior doors not over 3½ feet wide and for entrance and vestibule doors not over 2 feet 10 inches wide. No. 40 is for extra heavy interior doors and for entrance and vestibule doors over 2 feet 10 inches wide.

Spindle, links and other parts subjected to wear are made of drop-forged or of stamped steel and case-hardened. Spindle runs on ½-inch steel balls in a hardened steel ball race and has an upper roller bearing.

Has 2 springs and 2 checking mechanisms, one spring and check operating when door swings one way and the other operating when the door swings the other way. Each spring and check is adjustable independently.

Finish, dull bronze.

Cast iron cement case furnished with this floor check.

Packed 1 in wood case.

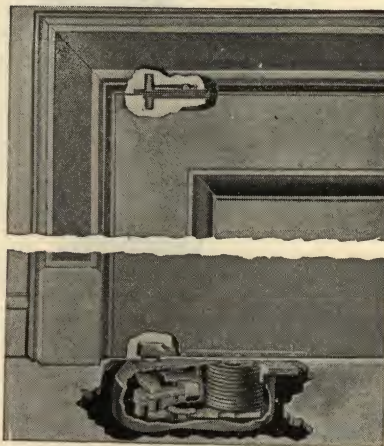
Weight—No. 30, 47 pounds; No. 40, 66 pounds.

No. 30.....each \$60.00

No. 40.....each 75.00

We stock replacement parts for any Rixson floor check.

Rixson Single-Acting Floor Checks Center Hung Type—Handed



No. 18½ is for light interior doors not over 3 feet wide; No. 21 is for interior doors not over 3½ feet wide, for outswinging entrance and vestibule doors not over 2½ feet wide, for inswinging entrance doors not over 2½ feet wide.

No. 26 is for extra heavy interior doors not over 4 feet wide, for entrance and vestibule doors over 2½ feet wide.

Center hung design eliminates all

hardware from the face of the door and allows increased width of opening.

Nos. 21 and 26 have roller upper spindle bearings and ball bearing top pivots. No. 18½ has plain bearings.

A cast iron cement case is always furnished with these checks.

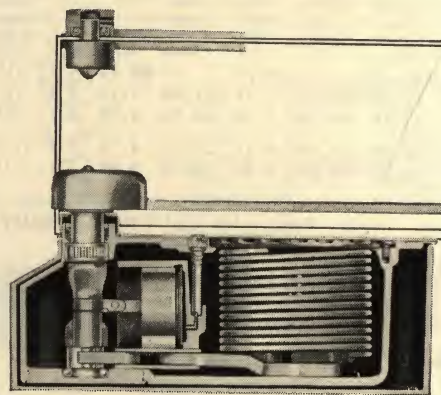
Dull bronze finish unless otherwise specified.

Packed with wood screws unless otherwise ordered.

No.	18½	21	26
Each.....	\$38.00	45.00	55.00
No. per Carton.....	1	1	1
Weight Each.....pounds	18	30	34

Rixson Single-Acting Floor Checks

Offset Type—Handed



No. 18 is for light interior doors not over 3 feet wide.

No. 20 is for interior doors not over 3½ feet wide, for outswinging entrance and vestibule doors not over 2½ feet wide and for inswinging entrance doors not over 2½ feet wide.

No. 25 is for extra heavy interior doors not over 4 feet wide and for entrance and vestibule doors over 2½ feet wide. Dull bronze finish unless otherwise specified.

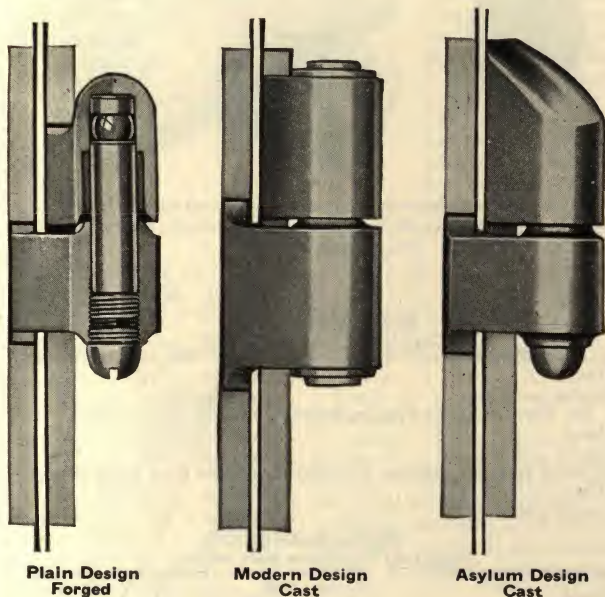
Packed with wood screws unless otherwise ordered.

Specify hand.

No.	18	20	25
Each.....	\$38.00	45.00	55.00
No. per Carton.....	1	1	1
Weight Each.....pounds	18	30	34

No. 19 Rixson Side Pivots

For Single-Acting Floor Checks

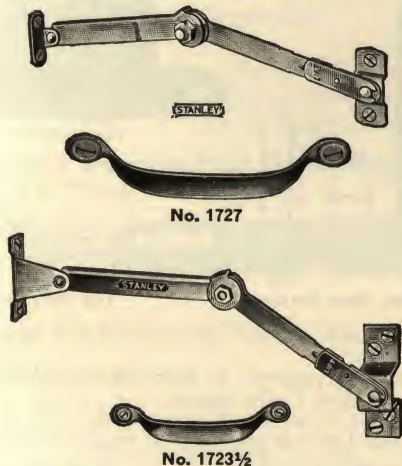


Intended as an intermediate pivot and for use where the regular top pivot cannot be used.

Furnished in brass, bronze and aluminum forgings for extra strength.

No. **19**.....each **\$7.50**

Stanley Storm Sash Fastener Sets Wrought Steel



A set consists of one pair of fasteners and one pull.
Can be used on sash hung outside or flush with the casing.
Permits opening the sash to any position for ventilation.
A fastener is applied to each side of the sash and to the
screen stops. Non-rattling adjustable friction element.

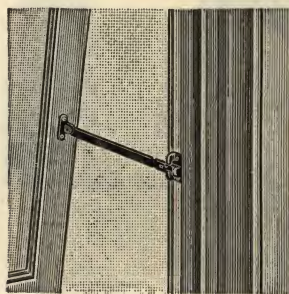
Not reversible; when ordered singly, specify hand.

Furnished in zinc.

Packed 1 set in an envelope with wood screws, 1 dozen sets in a box.

No.		1727	1723½
Per Dozen Sets			
Length Fastener	inches	9	9
Length Pull	inches	4¾x5⅝	4¾x5⅝
Size of Wood Screws:			
Fastener		1x7	1x8
Pull		¾x7	¾x7
Weight Per Dozen Sets	pounds	6	10½

No. 1719 Stanley Wrought Steel Storm Sash Fasteners



Eliminates rattling.

The fastener is attached to the side of the sash and window casing. When sash is closed the fastener pulls the sash inward and the sash is fastened securely.

Made in 2 lengths, 5-inch for windows 4 feet and smaller; 10-inch for windows over 4 feet.

Packed 1 dozen pairs in a box with 1-inch No. 7 screws.

No.	WT., LBS., PER GROSS		PRICE, PER GROSS SETS	
	5-inch	10-inch	Japanned	Zinc Pltd.
1719	44	68½	.....	.....

No. 1716 Stanley Wrought Steel Storm Sash Hangers

For heavy sash.

Holds sash snugly to the window frame to prevent rattling.

Size eye plate, $2\frac{1}{4} \times 1\frac{1}{4}$ inches. Size hook plate, $1 \times 1\frac{1}{4}$ inches.

Size of wood screws, $\frac{3}{4} \times 7$.

Eyes only are obtainable, allowing storm sash and screen to be hung on the same hooks.

Packed one pair in an envelope and 12 pairs in a box with wood screws.

Weight per gross pairs, 26 pounds.

No. 1716K, Zinc.....per dozen pairs

No. 1717 Stanley Steel Storm Sash Hangers

For Sash Hung Flush with Casing



The shape of the hook allows the sash to be easily hung from the inside without holding it far from the building. Will hold sash snugly to the window frame prevent rattling.

Eyes only are obtainable, allowing storm sash and screen to be hung on the same hook.

Eye, $2\frac{3}{4} \times 1$ inches; hook, $1\frac{1}{16} \times 7\frac{7}{8}$ inches.
Size of wood screws, $\frac{3}{4} \times 7$ inches.

Packed 1 pair in an envelope with screws.

Packed 1 dozen pairs in a box; 1 gross pairs in a case.

Approximate case weight, 41 pounds.

No. 1717J, Japanned Finish.

No. 1717K, Bright Zinc Plated Finish.

No. 1724 Wrought Steel Screen Hangers



Used for full length screens.

Width of hook plate, $1\frac{7}{8}$ inches; length of eye plate, 2 inches. Furnished with screws.

Packed, both complete and eyes only, 12 sets in a box with $\frac{3}{4}$ -inch by 6 screws.

		Complete	Eyes Only
Japanned (J).....	per gross sets	....	....
Zinc (K).....	per gross sets	....	....

No. 1123 Corbin Turn Buttons

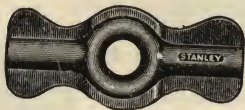


Made of cast iron.

Packed 12 dozen in a box with screws.

Size.....	inches	1½	1¾	2
No. 1123, Gloss Black.....	per gross			

No. 4 Stanley Wrought Steel Door Buttons



Packed 1 gross in a box.

Size.....	inches	1½	1¾	2
No. 4J, Japanned.....	per gross			
No. SC4 Jap., with Screws.....	per gross			
Size, Screws.....	1-In.x8	1-In.x8	1-In.x8	
Weight per Gross.....	pounds	2½	2½	3½

No. 151 Window Spring Bolts



Has brass spring; rust resistant zinc shell; steel plunger, which is nickel-plated.

Packed in cartons of ½ gross.

Weight, 9½ pounds per gross.

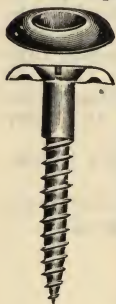
No. 151.....	per gross	
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Ives Stop Bead Screws and Washers

No. 8 flat head screws, 1¼ inches. Diameter washers, 9/16 inch.

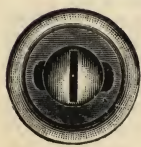
Packed 1 gross in a box with screws; 50 gross in a case.

Weight per gross, 1¼ pounds.



Finish	Wrought Steel		Wrought Brass or Bronze	
	No.	Per Gross	No.	Per Gross
Bright Brass.....	01F3	\$3.00	01B3	\$7.18
Dull Brass.....	01F4	3.00	01B4	7.18
Bright Bronze.....	01F9	3.00	01B9	7.18
Dull Bronze.....	01F10	3.00	01B10	7.18
Bright Nickel.....	01F14	3.28	01B14	7.88
Dull Nickel.....	01F15	3.28	01B15	7.88
Dead Black.....	01F18A	3.00	01B19	7.18
Bright Chrom.....			01B26	12.66
Dull Chromium.....			01B26D	12.66

Ives Window Stop Adjusters



Diameter stops, 5/8 inch.

No. 8 round head screws 1 in.

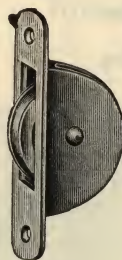
Also available for No. 10 screw; prices on application.

Packed 1 dozen in a package with screws; 1 gross in a box.

Weight per gross, 1¼ lb.

Finish	Wrt. Steel Cup		Wrt. Brass or Bronze Cup		Wrt. Brass or Bronze Cup & Screws	
	No.	Per Gr.	No.	Per Gr.	No.	Per Gr.
Bright Brass.....	6F3	\$4.84	6B3	\$8.70	7B3	\$10.54
Dull Brass.....	6F4	4.84	6B4	8.70	7B4	10.54
Bright Bronze.....	6F9	4.84	6B9	8.70	7B9	10.54
Dull Bronze.....	6F10	4.84	6B10	8.70	7B10	10.54
Bright Nickel.....	6F14	5.30	6B14	9.56	7B14	11.64
Dull Nickel.....	6F15	5.30	6B15	9.56	7B15	11.64
Dead Black.....	6F18A	4.84	6B19	8.70	7B19	10.54
Bright Chromium.....			6B26	14.34	7B26	16.42
Dull Chromium.....			6B26D	14.34	7B26D	16.42

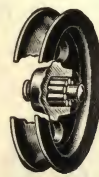
Corbin Sash Pulleys



Pulley



Universal Groove for Cord or Chain



Showing Roller Bearing

Furnished with universal groove for cord or chain. Packed 6 in a box, with screws; 10 dozen in case.

Dimensions

Wheel.....	inches	2¼	2½
Front.....	inches	5x1⅛	5¾x1¼

Noiseless Bearing

Cast Iron Front and Wheel		No. 609 Pol. Plated	
No. J609, Dead Black			
Wheel.....	inches	2¼	2½
Weight per Dozen.....	pounds	10¼	12¼
No. 609½ Wrought Bronze, Polished Front and Iron Wheel			
Wheel.....	inches	2¼	2½
Weight per Dozen.....	pounds	10	11¾
No. 619½ Wrought Bronze, Polished Front and Cast Brass Wheel			
Wheel.....	inches	2¼	2½
Weight per Dozen.....	pounds	10	12¾

Roller Bearing

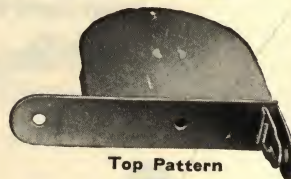
Cast Iron Front and Iron Wheel		No. 1609, Pol. Plated	
No. J1609, Dead Black			
Wheel.....	inches	2¼	2½
Weight per Dozen.....	pounds	9¼	10¾
No. 1609½ Wrought Bronze, Polished Front and Iron Wheel			
Wheel.....	inches	2¼	2½
Weight per Dozen.....	pounds	9¾	11¾
No. 1619½ Wrought Bronze, Polished Front and Cast Brass Wheel			
Wheel.....	inches	2¼	2½
Weight per Dozen.....	pounds	10	12¾

Extra for galvanized wheels, or for iron-faced pulleys furnished all electro-galvanized except wheels.

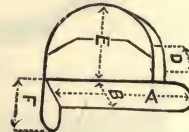
Pullman Unit A Sash Balances



Side Pattern Side Pattern



Top Pattern



Top Pattern

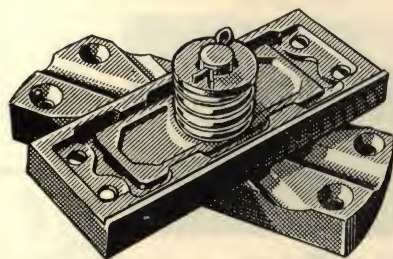
Dimensions of side pattern: A, 6 inches; B, 1 inch; C, 3/16 inches; E, 3/16 inches.

Dimensions of top pattern: A, 4 1/16 inches; B, 1 inch; C, 3/16 inches; E, 3/16 inches; F, 1 5/16 inches.

Weight of Unit A per set, 3 to 5 pounds. The length of tape in schedule below is the extreme length possible.

SIDE PATTERN				TOP PATTERN			
No.	Per Set 4 Bal. for 2 Sash	Wt. Lbs. Each Sash	Length Tape In.	No.	Per Set 4 Bal. for 2 Sash	Wt. Lbs. Each Sash	Length Tape In.
2-A	\$4.30	4 to 5	46	102-A	\$4.30	4 to 5	46
3-A	4.30	5 to 7	46	103-A	4.30	5 to 7	46
4-A	4.30	7 to 9	46	104-A	4.30	7 to 9	46
5-A	4.30	9 to 11	46	105-A	4.30	9 to 11	46
6-A	4.30	11 to 13	46	106-A	4.30	11 to 13	46
7-A	4.30	13 to 15	46	107-A	4.30	13 to 15	46
8-A	4.80	15 to 17	46	108-A	4.80	15 to 17	46
9-A	4.80	17 to 19	46	109-A	4.80	17 to 19	46
10-A	4.80	19 to 21	46	110-A	4.80	19 to 21	46
11-A	4.80	21 to 23	46	111-A	4.80	21 to 23	46
12-A	4.80	23 to 25	46	112-A	4.80	23 to 25	46
13-A	5.50	25 to 27	46	113-A	5.50	25 to 27	46
14-A	5.50	27 to 29	46	114-A	5.50	27 to 29	46

Howarth Iron Friction Sash Centers



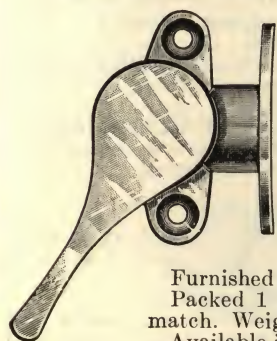
For office buildings, residences, etc.

Large single windows can be hung on top and bottom or sides. Friction holds sash in any position.

Also for windows hung on cords and weights. Sash can be lowered or

raised same as any double hung sash and can be reversed outside inside for cleaning purposes. Packed 1 set in a box.
 No. 300A 300 301 302 303 304
 Dead Black Finish..per set \$1.57 1.57 1.69 2.05 2.54 3.02
 For Thick. Sash...in. 1½ 1¾ 1¾ 2 2¼ 2½
 Cast brass and special finishes, prices on request.

No. 18 Champion Side Sash Fasteners



Used to prevent windows from rattling.

Fastener locks window by pressure applied against the casing. Very effective for windows without weights.

Makes excellent ventilating sash lock, as it will lock either upper or lower sash at any point.

Made of planished malleable iron.

Furnished with 5/8x6 FH screws.
 Packed 1 dozen in a box with screws to match. Weight per dozen, 1 pound.
 Available in the following finishes:

No. 18C, Dull Brass.

No. 18J, Japanned.

No. 40260 Shelby Sash Locks



Made of wrought steel. Dull brass plated.

Packed 12 in a box with screws; 2 gross in case. Weight per gross, 25½ pounds.

Dennis Window Pull Down Poles



Made to handle every type of window that must be raised or lowered.

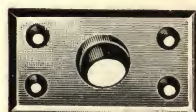
Imitation walnut finish.

Diameter of pole, 1½ inches.

Packed 1 dozen in a bundle.

Length.....feet	5	6	8	10	12
Poles Only....per doz.	\$7.65	\$9.08	\$13.75	\$16.78	\$21.80
With Hooks...per doz.	15.02	16.23	22.00	25.30	32.90
Weight per Doz....lb.	19	21	34	39	44
Extra Hooks.....per dozen	\$6.60				

No. 270 Payson Sash Plates Cast Iron



Plate, 1¼x2 inches.

Available in all standard finishes.

Packed 1 dozen in a box.

Weight per dozen, 1½ pounds.

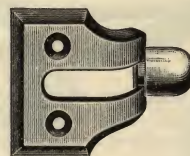
No. 270.....per dozen

For solid brass or bronze, add prefix 0 to No.

No. OF4 Ives Window Ventilating Locks



Window Open



Window Closed

Easily applied to either side of upper sash. No cutting or mortising required.

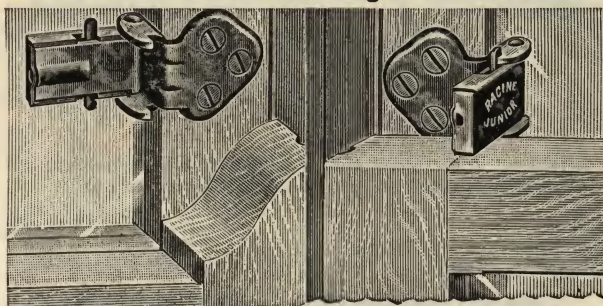
Made of wrought steel, burnished; dull brass finish. Furnished with bronze or brass knob, finished to match.

Size of plate, 1½x1½ inches. Size of strike, 7/8x1¼ inches. Projection, ¾ inch.

Packed 1 dozen in a box, with screws; weight per dozen, 1½ pounds.

No. OF4, Dull Brass Finish.....per dozen \$4.20

Racine Junior Ventilating Window Locks



Lock Open

Lock Closed

Positively locks both upper and lower windows. Cannot be opened from the outside. Use either right or left hand.

Made of steel stampings.

Packed 2 dozen to a box.

Weight, 2½ pounds per box of 2 dozen.

No. 15, Brass Plated.....per dozen \$3.60

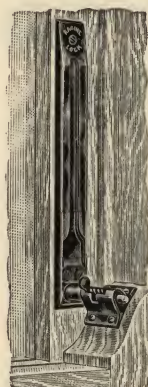
No. 16, Nickel Plated.....per dozen 3.60

No. 11, Polished Brass Plated.....per dozen 7.20

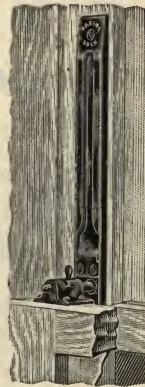
No. 17, Polished Nickel Plated.....per dozen 9.00

No. 19, Polished Chromium Plated.....per dozen 10.20

No. 25 Racine Automatic Ventilating Window Locks



Mounted on Curved Sash



Mounted on Flat Sash

Can be used either right or left-hand side.

Positively locks both upper and lower windows closed as bolt engages lower part of slide. Window may be locked 6 inches open. Cannot be opened from outside. Makes window burglar-proof.

To open window entirely, place trigger in notch on housing.

Packed 1 dozen in a box. Weight per dozen, 4 pounds.

No. 25, Dull Brass.....per dozen \$10.20

Rixson Friction Stays



For doors, hinged windows swinging in, and transoms. Permits the door or window to open clear back against the wall, and the friction required is not enough to cause annoyance in opening and closing.

No. 33 For Doors and Hinged Windows

No. 33F2, Steel, Electro-Galvanized.....each \$1.00
No. 33F3, Steel, Black Rustless.....each 1.00

No. 33½ For Transoms

For transoms 4 feet wide or over, two friction stays should be used. It is right or left hand, without any change.

No. 33½F2, Steel, Electro-Galvanized.....each \$1.00
No. 33½F3, Steel, Black Rustless.....each 1.00

No. EA043½ Corbin Cast Iron Casement Adjusters



For casements opening out.

Diameter bar, 3/8 inch. Sash plate, 3/4x2¼ inches; sill plate, 7/8x2¼ inches. Wrought steel bar, steel set-screw.

Size.....inches	10	12
No. EA043½, Dull Brass.....per dozen		
Weight per Dozen.....pounds	8¾	9½

No. 55 Corbin Casement Adjusters



For top or bottom of casements opening in or out. Mount on outside of casement opening in.

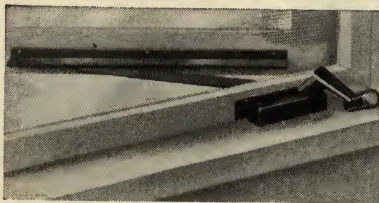
Made of wrought brass or bronze. Friction type; adjustable by means of knurled ring at end of tube.

Sash plate, 5/8x1½ inches; sill plate, 3/4x2¼ inches; diameter bar, 3/8 inch; diameter tube, 5/8 inch. Distance from sill to top of sash plate, 7/8 inch.

Packed 6 in a box with screws.

Length (Closed).....inches	8	10	12	15
No. 55, Polished.....per dozen				
Extended Length Overall.....inches	11¾	16¼	20½	26½
Weight per Dozen.....pounds	8	9	10¾	13½

No. 4715 Getty Casement Operators



Can be used with flat metal or roll screens and venetian blinds or with butt or extension hinges. May also be used on non-screened casements.

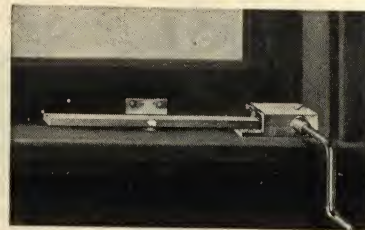
Heavy brass channel guide has 3-point anchorage on window. A 12-inch channel is standard for use with butt hinges; 15-inch channel required for casements with extension hinges. Rustproofed steel arm, 9 inches long. Zinc die-cast housing. Angle-drive crank handle of zinc die casting.

When ordering, specify hand.

Packed 1 in a box with screws; weight, 1½ lb.

No. 4715EBL, Bronze Lacquer Finish.....each \$2.60

Rixson Casement Operators



For hinged windows swinging out. A window equipped with this device is always locked in any position and cannot be moved except by turning the handle and when it is closed, the window is held tight. Being of the screw type, it develops ample power to handle any ordinary kind of sash up to 30 inches wide.

The driving screw is of steel with double square threads, and the traveler that runs on this screw is of cast bronze and will not rust.

Slide which runs inside the arm is covered with fibre, making the device noiseless and reducing friction.

Can be used concealed or exposed.

Unless otherwise ordered, handles are furnished detachable and suitable for a stool 3½ inches wide on the No. 94, and 5½ inches wide on the No. 95.

State whether left-hand or right-hand handle is wanted. Also specify style of handle and if device is to be placed on top of stool or under stool. Give width of stool.

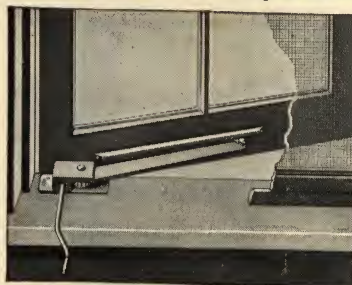
Packed 2 in a carton.

No.	94	95
Electro-Galvanized.....each	\$3.90	\$7.80
Brass or Bronze, Dull or Bright.....each	7.00	9.30

Handles

No. 5, Steel, Brass-Plated, Crank Handle.....each	\$5.50
No. 6, Steel, Brass-Plated, Tee Handle.....each	.50
No. 7, Brass or Bronze Crank Handle.....each	1.90
Nos. 8 or 9, Brass or Bronze Crank Handle.....each	2.70

Ives Heavy Duty Casement Window Operators



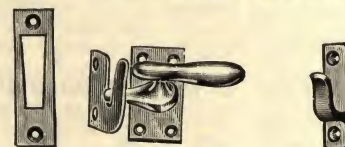
For operating out-swinging casement window without removing screen. Used with standard hinges.

Wrought steel or wrought brass. Width, 1½ in.; length, 13¼ in.

Can be furnished with crank handle with escutcheon finished to match. In all regular finishes.

One in box with screws; 2 doz. per ctn. Ctn. wt., 40 lb.
No. 388F2C, Operator.....each \$2.52
No. 381F3, Handle.....each .30
No. 385F3, Handle with Sill Bracket.....each .50

Payson Casement Fasteners



With Mortise and Rim Strikes

Surface Strike

Base made of wrought steel with malleable handle. Base, 1½x1½ inches; projection, 1½ inches.

Available in all standard finishes.

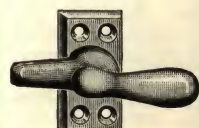
Packed 1 dozen in a box with rim and mortise strikes or surface strike.

Weight per dozen, 3 pounds.

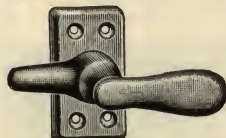
No. 904, with Rim and Mortise Strikes....per dozen	....
No. 904½, with Surface Strike.....per dozen	....

For solid brass or bronze, add prefix 0 to No.

Corbin Casement Fasteners Reversible



Nos. 02180 and 03180



Nos. 02170 and 03170



Rim (R)

Packed 12 in box with screws.



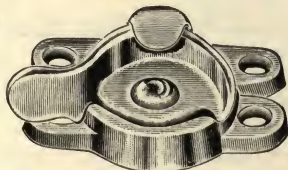
Surface (S)



Mortise (M)

Cast Brass or Bronze Polished	Cast Iron Plated	Type Strike	DIMENSIONS, IN.		
			Plate	Proj.	Strike
02170M	03170M	Mortise....	1 ¹⁵ / ₁₆ x1 ¹ / ₈	1 ⁵ / ₈	2 ⁹ / ₁₆ x ⁵ / ₈
02170R	03170R	Rim.....	1 ¹⁵ / ₁₆ x1 ¹ / ₈	1 ⁵ / ₈	1 ¹ / ₂ x1 ³ / ₈
02170S	03170S	Surface....	1 ¹⁵ / ₁₆ x1 ¹ / ₈	1 ⁵ / ₈	2 x ⁹ / ₁₆
02180M	03180M	Mortise....	1 ¹¹ / ₁₆ x ⁷ / ₈	1 ¹ / ₄	2 ⁹ / ₁₆ x ⁵ / ₈
02180R	03180R	Rim.....	1 ¹¹ / ₁₆ x ⁷ / ₈	1 ¹ / ₄	1 ¹ / ₂ x1 ³ / ₈
02180S	03180S	Surface....	1 ¹¹ / ₁₆ x ⁷ / ₈	1 ¹ / ₄	1 ¹¹ / ₁₆ x ⁵ / ₈

Payson Sash Fasteners Cast Iron



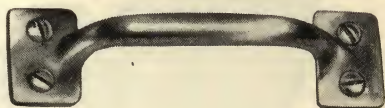
Available in all standard finishes.

Packed 1 dozen in a box; No. 80 available 1 gross in a carton also.

No.	80	87
Per Dozen.....		
Base.....inches	2 ¹ / ₂ x ⁷ / ₈	2 ³ / ₄ x1 ¹ / ₈
Strike.....inches	2 ¹ / ₂ x ⁵ / ₈	2 ³ / ₄ x ⁵ / ₈
Weight per Dozen.....pounds	2 ¹ / ₂	3 ¹ / ₄

For solid brass or bronze, add prefix 0 to No.

Payson Sash Lifts Cast Iron



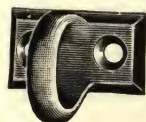
Available in all standard finishes.

Packed 1 dozen in a box; No. 1001 available 1 gross in a carton also.

No.	1001	1003
Per Dozen.....		
Overall Length.....inches	4	5
Projection.....inches	1 ¹ / ₁₆	1 ¹ / ₄
Weight per Dozen.....pounds	1 ³ / ₄	3 ¹ / ₄

For solid brass or bronze, add prefix 0 to No.

No. 275 Payson Transom Eyes Cast Iron



Plate, ³/₄x1¹/₂ inches; eye, ³/₄-inch inside diameter.

Available in all standard finishes.

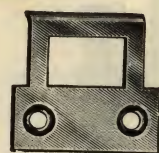
Packed 2 dozen in a box.

Weight per box, 2³/₄ pounds.

No. 275.....per dozen

For solid brass or bronze, add prefix 0 to No.

Payson Transom Catches With Loose Bolt



³/₄ Universal Strike



¹/₂ Rim Strike

The cut shows the action of the loose bolt when pulled down by the hook. In closing the hook pushes against the case, leaving the bolt loose and free to engage in the strike.

Packed 12 in a box, with screws.

Cast Iron

Furnished polished or unpolished, all finishes.

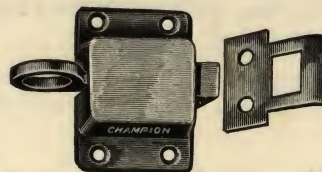
No.	With ³ / ₄ Universal Strike	With ¹ / ₂ Rim Strike	Size Inches	Weight Pounds per Box
109 ³ / ₄	109 ³ / ₄	109 ¹ / ₂	1 ¹ / ₂ x2 ¹ / ₈	4
110 ³ / ₄	110 ³ / ₄	110 ¹ / ₂	1 ³ / ₄ x2 ³ / ₄	5 ⁷ / ₈

Cast Brass or Bronze

0109 ³ / ₄	0109 ³ / ₄	1 ¹ / ₂ x2 ¹ / ₈	4
0110 ³ / ₄	0110 ¹ / ₂	1 ³ / ₄ x2 ³ / ₄	5 ⁷ / ₈

Prices upon request.

No. U8920 Champion Wrought Transom Catches



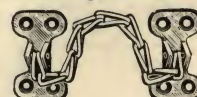
Case is drawn from one piece of metal without joints or seams. Cast steel bevel bolt, polished. Has universal strike.

Packed 1 dozen in a box; 12 dozen in a case, with ⁵/₈x5 flat head screws to match.

Weight per box, 2 pounds; per case, 54 pounds.

No. U8920.....per dozen

Series 300 Payson Transom Chains Wrought Steel



Plate, 1x1³/₄ inches.

Furnished with No. 35 chain.

Available in all standard finishes.

Packed 1 dozen in a box.

No.	300	301	302	303
Per Dozen.....				
Length Chain.....inches	9	12	15	18
Weight per Dozen.....pounds	1 ³ / ₄	1 ⁷ / ₈	2	2 ¹ / ₄

For solid brass or bronze, add prefix 0 to No.



Payson Transom Centers

Cast Iron

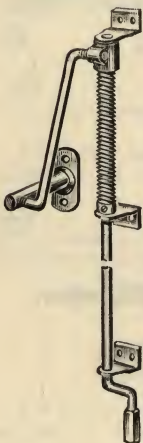
Packed 1 dozen sets in a box.

Available in all standard finishes.

For solid brass or bronze, add prefix 0 to No.

No.	603	604	605
Per Set.....			
Plate.....inches	$\frac{7}{8} \times 2\frac{3}{8}$	$1 \times 2\frac{7}{8}$	$1\frac{1}{4} \times 3\frac{1}{4}$
Pin.....inches	$\frac{1}{16}$	$\frac{1}{2}$	$\frac{9}{16}$
Backset.....inches	$\frac{11}{16}$	$\frac{3}{4}$	$\frac{7}{8}$
Rail.....inches	$1\frac{3}{8}$	$1\frac{1}{2}$	$1\frac{3}{4}$
Weight per Dozen Sets....pounds	$4\frac{1}{8}$	$5\frac{1}{4}$	$8\frac{1}{2}$

Class 8 Payson Transom Lifters



Reversible; not handed.

Opens any transom sash, with or without recess. Top, bottom, or pivoted; swinging in or out.

Cross head of brass.

Recessed sash under 2 inches should have connecting rod with long bend at bracket.

Recessed sash over 2 inches with long bend at cross head.

No. 8-213 8-214 8-215 8-216

Each.....

Main Rod...ft. 3 4 5 6

Corbin Wrought Steel Transom Lifters

For transoms, hinged at top or bottom, opening in or hung on centers.

No. 0093— $\frac{1}{4}$ -Inch Diameter Rod
Width plate, $\frac{15}{16}$ inch.

Length Feet	No. TA0093 Brass		No. EA0093 Dull Brass	
	Each	Wt., Lb.	Each	Wt., Lb.
3	$1\frac{1}{8}$	....	$1\frac{1}{8}$
4	$1\frac{1}{4}$	....	$1\frac{1}{4}$
5	$1\frac{3}{8}$	....	$1\frac{1}{2}$

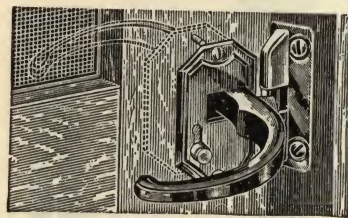
No. 0094— $\frac{5}{16}$ -Inch Diameter Rod
Width plate, $\frac{15}{16}$ inch.

Length Feet	No. TA0094 Brass		No. EA0094 Dull Brass	
	Each	Wt., Lb.	Each	Wt., Lb.
3	$1\frac{3}{8}$	....	$1\frac{1}{2}$
4	$1\frac{3}{4}$	....	$1\frac{3}{4}$
5	2	....	$2\frac{1}{8}$
6	$2\frac{3}{8}$	....	$2\frac{1}{2}$

No. 0095— $\frac{3}{8}$ -Inch Diameter Rod
Width plate, 1 inch.

Length Feet	No. TA0095 Brass		No. EA0095 Dull Brass	
	Each	Wt., Lb.	Each	Wt., Lb.
4	$2\frac{5}{8}$	....	$2\frac{3}{4}$
5	3	....	$3\frac{1}{8}$
6	$3\frac{1}{2}$	....	$3\frac{3}{8}$
8	$4\frac{3}{8}$	....	$4\frac{1}{2}$
10	$5\frac{5}{8}$	....	$5\frac{3}{8}$

Ideal One-Bore Latches



Cast handle, one bore latch for doors $\frac{7}{8}$ to $1\frac{3}{8}$ -inches thick. For out-swinging doors. Natural, automatic action.

Beveled escutcheons.

Slide locking bar.

Case of lock secured to door with 2 concealed screws.

Installed by drilling 1-inch hole.

For doors $\frac{7}{8}$ to $1\frac{3}{8}$ -inch thick, add prefix TH.

For in-swinging doors, slide bolt in opposite escutcheon, with extra strike for slide bar, add prefix IS.

Packed 2 dozen per shipping carton.

No. 1121 with Cast Aluminum Handle

No.	Per Dozen	Finish	Trim	Ship. Wt. Lb. per Doz.
1121US4	\$16.66	Dull Brass	Steel	5
1121SSD	16.66	Brushed	Stainless	5
1121DCD	14.60	Chrom. Zinc	Steel	5
1121MPB	17.50	Mach. Pol. Brass	Steel	5
1121US10	17.50	Dull Bronze	Steel	5

No. 21 with Cast Brass Handle

No.	Per Dozen	Finish	Trim	Ship. Wt. Lb. per Doz.
21MPB	\$22.20	Mach. Pol. Brass	Brass	9
21US3	28.20	Pol. Brass	Brass	9
21US4	21.00	Dull Brass	Brass	9
21DCR	25.20	Dull Chrome	Brass	9

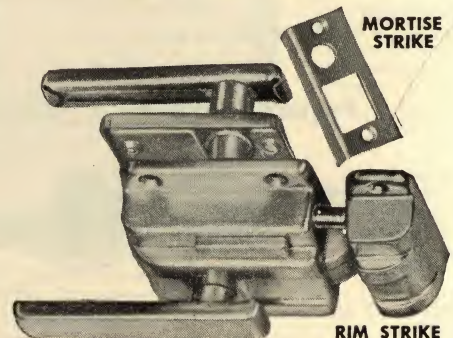
TH, Doors $\frac{7}{8}$ to $1\frac{3}{8}$ Inch Thick.....add, per doz. .60

IS, In-Swinging Doors.....add, per doz. 1.20

Strike Only, For Pair of Doors, Any Finish...per doz. 3.00

Credit Allowed for Regular Strike.....per doz. 1.50

No. 601 Screenmaster Standard Screen and Storm Door Latches



Furnished with spindle to accommodate doors from $\frac{3}{4}$ to $1\frac{1}{8}$ inches thick; other thicknesses available. Reversible.

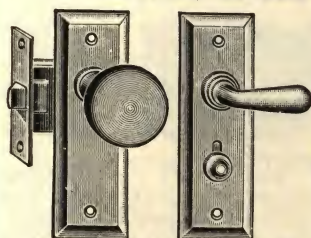
Made of solid brass, rustproof. Two-spring ship type anti-friction latchbolt. Can be locked from the inside with the separate locking dead bolt. Forged, solid brass lever handles.

When ordering, specify whether mortise (M), rim (R), or mortise and rim (MR) strikes are desired.

Packed 1 in a box.

	No. 601-M With Mortise Strike	No. 601-R With Rim Strike	No. 601-MR With Mortise and Rim Strikes
Dull Brass Finish.....per doz.	\$29.40	\$31.80	\$33.60
Polished Brass or Dull Bronze Finish.....per doz.	33.00	35.40	37.80
Dull Chrome, Dull Nickel or Dead Black Finish.....per doz.	34.80	37.80	40.20
Polished Chrome Finish.....per doz.	38.40	42.00	45.00

Corbin Screen Door Catches



No. 02457, Wrought Brass

For doors $\frac{7}{8}$ to $1\frac{3}{8}$ inches thick, opening in or out. Reversible.

Japanned iron case, $2x2\frac{1}{8}x\frac{1}{2}$ inches; front, $3\frac{5}{16}x1\frac{1}{16}$ inches; backset, $1\frac{3}{8}$ inches. Can be furnished $1\frac{1}{4}$ -inch backset, when specified. Furnished with cast brass bolt and lever. Hub, $\frac{5}{16}$

inch. Strike, $1\frac{3}{4}x\frac{5}{8}$ inches; lip, $\frac{7}{8}$ inch to center.

Operation by knob from outside and lever inside. Knob and lever locked by slide-stop inside.

Escutcheons, $4\frac{1}{2}x1\frac{1}{2}$ inches. Knob diameter, $1\frac{3}{4}$ inches; lever, 2 inches. Projection: lever, $1\frac{3}{4}$ inches; knob, 2 inches.

Packed 1 set in a box with screws. Wt. per doz., 12 lb.

No. EA02457, Dull Brass Finish.....per dozen

No. 03457, Wrought Steel

Same as No. 02457, except with cast iron bolt and lever.

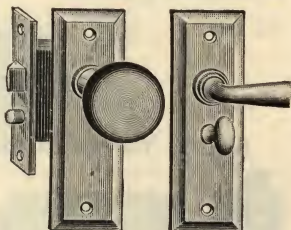
Weight per dozen, $11\frac{3}{4}$ pounds.

No. EA03457, Dull Brass Finish.....per dozen

No. 02459, Wrought Brass

For doors $\frac{7}{8}$ to $1\frac{3}{8}$ inches thick, opening in or out. Reversible.

Japanned iron case, $2x1\frac{3}{4}x\frac{1}{2}$ inches; front, $3\frac{1}{4}x1\frac{1}{16}$ inches; backset, $1\frac{1}{4}$ inches. Furnished with cast brass bolt and lever. Hub, $\frac{5}{16}$ inch. Strike, $2\frac{5}{8}x1\frac{1}{16}$ inches; lip, $1\frac{3}{16}$ inch to center.

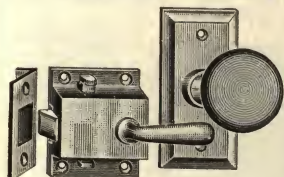


Operation: latch bolt by knob from outside and by lever from inside. Dead bolt by thumb knob from inside.

Escutcheons, $4\frac{1}{2}x1\frac{1}{2}$ inches. Knob diameter, $1\frac{3}{4}$ inches; lever, 2 inches. Projection: lever, $1\frac{3}{4}$ inches; knob, 2 inches.

Packed 1 set in a box with screws. Wt. per doz., 12 lb.

No. EA02459, Dull Brass Finish.....per dozen



No. 02463, Cast Brass

For doors $\frac{7}{8}$ to $1\frac{3}{8}$ inches thick, opening out.

Catch, $2\frac{1}{8}x1\frac{3}{4}x\frac{5}{8}$ inches; backset, $1\frac{3}{8}$ inches. Strike, $2x\frac{3}{4}x1\frac{1}{2}$ inches. Furnished with wrought brass knob and escutcheon. Escutcheon, $3\frac{1}{4}x1\frac{1}{2}$

inches. Lever, $1\frac{5}{8}$ inches; knob diameter, $1\frac{3}{4}$ inches. Projection: lever, $2\frac{1}{16}$ inches; knob, $2\frac{1}{8}$ inches.

Packed 1 in a box with screws.

Weight per dozen, $9\frac{1}{8}$ pounds.

No. EA02463, Dull Brass Finish.....per dozen

No. 03463, Cast Iron

Same as No. 02463 except with wrought steel knob and escutcheon. Weight per dozen, $8\frac{5}{8}$ pounds.

No. EA03463, Dull Brass Finish.....per dozen

Superior Door Catches



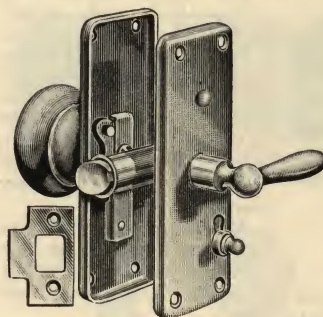
Made of fine quality steel and rubber construction.

Can be used as a door catch, for broom, paper, ironing board and mop holder. Also for screen, storm, cupboard, cellar and barn doors, and gates.

Operates automatically. Placed at the bottom of a storm window to prevent rattle and to hold window tight. Extra hooks and springs are unnecessary.

Packed 12 in a box with screws. Weight per doz., 2 lb. Zinc Plated (US2C).....per dozen \$1.80

No. 500 Frost Screen and Storm Door Latches



Solid brass, entirely rustproof.

Latch bolt for $\frac{9}{16}$ -inch bore— $\frac{5}{16}$ -inch throw. Barrel, $\frac{9}{16}$ -inch diameter, $2\frac{1}{16}$ inches long. Backset, $1\frac{5}{16}$ inches.

Knob is $1\frac{3}{4}$ inches in diameter, escutcheon plate is $4\frac{1}{4}x1\frac{3}{8}$ inches.

Easy to install. Unit is complete, nothing to come apart. No set-screws to work loose. Soft positive action.

Packed 1 per carton, 3 dozen per case, complete with screws and instructions.

Shipping weight approximately 30 pounds per case.

No. 500, Regular for $1\frac{1}{8}$ -Inch Door.

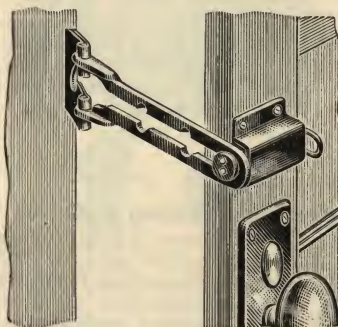
No. 500A, Lock on Knob Side.

No. 500B, Knobs on Both Sides.

No. 500C, Lever Handles on Both Sides.

No. 500D, for $1\frac{3}{8}$ -Inch Door.

No. 60 Racine Notched Type Door Guards

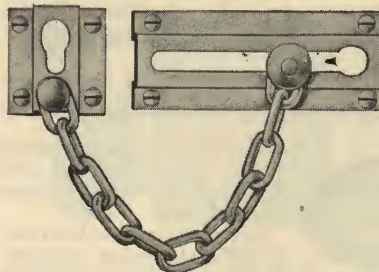


Locks the door ajar in any one of three positions by pushing wire loop in bolt housing on door into any set of notches. Also serves as an additional lock by pushing wire loop into door guard plate when door is closed. This securely bolts the door and the guard is then swung back flat against the casing completely out of the way.

Packed 1 dozen in a box. Weight per dozen, 6 pounds.

No. 60, Brass Plated.....per dozen \$11.40

Baldwin Chain Door Fasteners Solid Forged Brass



No. 440

Size door plate, $1\frac{3}{8}x3\frac{1}{2}$ inches; jamb plate, $1\frac{3}{8}x1\frac{1}{2}$ inches. Chain length, 6 inches.

Provides positive guard against intruders yet allows ventilation. When chain is hooked door can be opened $4\frac{1}{2}$ inches.

Packed 6 in a box;

6 doz. in shipping carton. Weight per carton, 37 pounds.

No. 440, Polished or Dull Brass.....dozen \$17.80

No. 440, Dull Bronze.....dozen 24.10

No. 441, Narrow Design

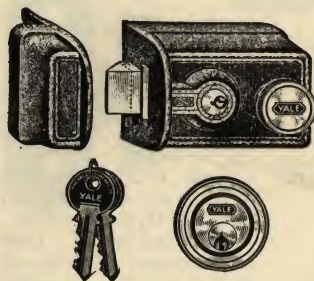
Same as No. 440 but with jamb plate, $\frac{3}{4}x2\frac{1}{4}$ inches. The narrow style of jamb plate allows mounting on doors with narrow metal jambs of fancy design.

Packed 6 in a box; 6 dozen to a carton. Weight per carton, 35 pounds.

No. 441, Polished or Dull Brass.....dozen \$19.40

No. 441, Dull Bronze.....dozen 26.70

No. 44 1/4 Yale Automatic Cylinder Deadlatches



For doors 1 1/8 to 2 1/4 inches thick, right or left hand. Concealed screws. Iron case, 2 1/2 x 3 3/4 x 1 1/8 inches; backset, 2 3/8 inches; brass bolt and knob; No. 1109 brass five pin-tumbler cylinder for outside; two No. 8 keys; changes practically unlimited; master keyed if required.

Extra throw deadlatch, operated by key from outside and knob from inside.

Latchbolt held back by stop or key inside. Key inside deadlocks knob. Slide deadlocks latchbolt.

One in box with screws and rim strike. Wt. 2 1/4 lb.

No. 44 1/4, Brown Wrinkled Finish.....per dozen

No. 44 Yale Automatic Cylinder Deadlatches



For doors 1 1/8 to 2 1/4 inches thick, either right or left hand. Reversible, for doors opening out.

Streamlined, rustless case, 2 1/2 x 3 3/4 x 1 1/8 inches backset, 2 3/8 in.; brass bolt and knob; No. 1109 brass five pin-tumbler cylinder; two No. 8 keys; changes practically unlimited.

Operated by key from outside, knob from inside. Latchbolt held back by stop. Automatic extra throw deadlocks latch bolt.

Packed 1 in a box with screws and rim strike.

Weight, 1 1/2 pounds.

No. 44, Dull Brass Finish.....per dozen

No. 040 Yale Cylinder Rim Spring Latches



For doors 1 1/8 to 2 1/4 inches thick, either right or left hand. Reversible, for doors opening out.

Streamlined, rustless case, 2 1/2 x 3 3/4 x 1 1/8 inches; backset, 2 3/8 inches; brass bolt and knob; No. 1109 brass five pin-tumbler cylinder; two No. 8 keys; changes practically unlimited.

Operated by key from outside and knob from inside which holds latchbolt retracted until door is opened.

Locks automatically when closed. Latchbolt held back by stop.

Packed 1 in a box with screws and rim and flat strikes.

Weight, 1 1/2 pounds.

No. 040, Dull Brass Finish.....per dozen

No. 042 Yale Cylinder Rim Deadlatches



For doors 1 1/8 to 2 1/4 inches thick, either right or left hand. Reversible, for doors opening out.

Streamlined, rustless case, 2 1/2 x 3 3/4 x 1 1/8 inches; backset, 2 3/8 inches; brass bolt and knob; No. 1109 brass five pin-tumbler cylinder; two No. 8 keys; changes practically unlimited.

Operated by key from outside and knob from inside. Latchbolt held back by

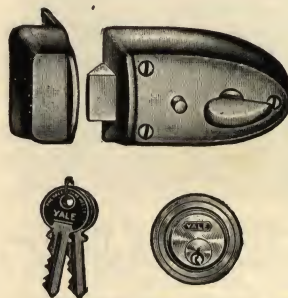
stop. Extra turn of key or knob gives extra throw deadlatch. Cannot be pried.

Packed 1 in a box with screws and rim strike. Flat strike available on request. Weight, 1 1/2 pounds.

No. 042, Dull Brass Finish.....per dozen

No. 047 Yale Cylinder Rim Deadlatches

Automatic Extra Throw



For doors 1 1/8 to 2 1/4 inches thick, either right or left hand. Reversible, for doors opening out.

Streamlined rustless case, 2 1/2 x 3 3/4 x 1 1/8 inches and rim strike, dull brass finish. Opening in, use rim strike; opening out, use flat strike. Backset, 2 3/8 inches. Brass bolt. No. 1109 brass cylinder, five pin-tumblers; two No. 8 keys; changes practically unlimited; master-keyed and grand master-keyed.

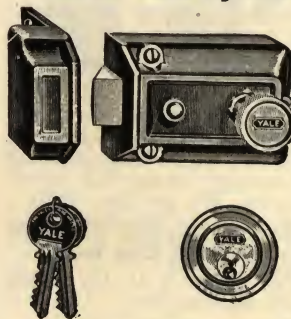
Operated by key from outside and brass knob from inside. Latch bolt held back by stop. Cannot be pried.

Packed 1 in a box with screws and rim strike. Flat strike available on special order.

Weight, 1 1/2 pounds.

No. 047.....per dozen

No. 80 Yale Cylinder Rim Springlatches



For doors 1 1/8 to 2 1/4 inches thick, either right or left hand. Reversible, for doors opening out.

Cast iron case, 2 1/2 x 3 3/4 x 1 1/8 inches, brass finish; backset, 2 3/8 inches. Opening in, use rim strike; opening out, use flat strike. Cast iron bolt, brass finish; No. 1747 rustless cylinder, brass finish, five pin-tumblers; two No. 8 keys; 7000 changes; not master-keyed.

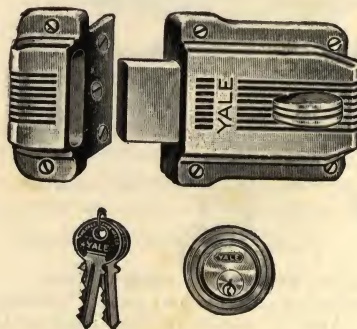
Operated by key from outside and brass knob from inside. Latch bolt held back by stop.

Packed 1 in a box with screws, rim and flat strikes.

No. 80, Weight, 1 1/2 Pounds.....per dozen

No. 112 Yale Cylinder Rim Deadlocks

Extra Heavy—Long Throw



For doors 1 3/8 to 3 3/8 inches thick, either right or left hand opening in.

Rustless case, 3 3/4 x 3 1/2 x 1 1/2 inches, gray enamel finish; backset, 2 3/8 inches; die-cast bolt with hardened steel inserts, 1 1/2-inch throw; No. 1109 brass cylinder, five pin-tumblers; two No. 8 keys; changes practically unlimited; master-keyed and grand master-keyed.

Operated by key from outside and brass knob from inside. Packed 1 in a box with screws and rim strike.

Weight, 2 1/4 pounds.

No. 112.....per dozen

No. 2 Yale Cylinder Rim Deadlocks



For doors $1\frac{1}{8}$ to $2\frac{1}{4}$ inches thick, either right or left hand.

Streamlined rustless case, $2\frac{1}{2} \times 3\frac{3}{4} \times 1\frac{1}{8}$ inches and rim strike, dull brass finish. Opening in, use rim strike; opening out use flat strike. Backset, $2\frac{3}{8}$ inches. Die-cast bolt, brass finish. No. 1109 brass cylinder, five pin tumblers; two No. 8 keys; changes practically unlimited; master-keyed and grand master-keyed.

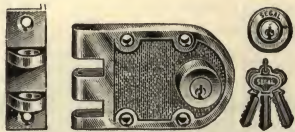
Operated by key from outside and brass knob from inside.

Packed 1 in a box with screws, rim and flat strikes.

Weight, $1\frac{1}{2}$ pounds.

No. 2.....per dozen

No. 688 Segal Cast Bronze Jimmyproof Double-Cylinder Deadlocks For Doors with Glass Panels



For doors $1\frac{1}{4}$ to 3 inches thick.

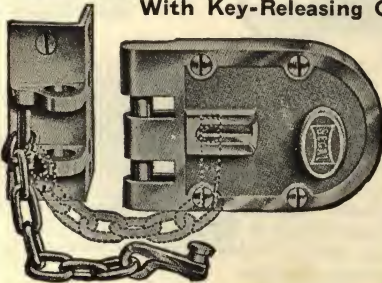
Cast bronze case, $4\frac{3}{8} \times 2\frac{3}{4}$ inches; backset, $2\frac{3}{8}$ inches; cast bronze cylinder, strike, bolts etc. Has countersunk cylinder ring, force-proof. Furnished with 3 liberty silver keys; changes practically unlimited.

When desired for single door opening out, reverse bevel door, order with flat strike.

Packed 1 in a box, shipping weight, $2\frac{1}{2}$ pounds; 3 dozen in a case, shipping weight, 96 pounds.

No. 688, Polished Bronze.....per dozen

No. C666 Segal Jimmyproof Deadlocks With Key-Releasing Chain



Cast bronze case, strike, cylinder, bolts, etc. Dimensions, $2\frac{3}{4} \times 4\frac{3}{8}$ inches. Standard backset, $2\frac{3}{8}$ inches. Cylinder is adjustable to doors $1\frac{1}{4}$ to 3 inches thick; pick and drill resisting. Equipped with protective shutter. Patented

countersunk, force-proof cylinder ring. Furnished with 3 nickel silver keys. Key changes unlimited. Dull bronze finish.

Packed 1 in a box with screws. Ship. weight, $2\frac{1}{2}$ pounds.

No. C666.....per dozen \$.....

No. 666 Segal Cast Bronze Jimmyproof Deadlocks

With Angle Strike for Single Door Opening In Double Sliding Doors and Double Doors Opening In or Out



Cylinder is adjustable to doors $1\frac{1}{4}$ to 3 inches thick.

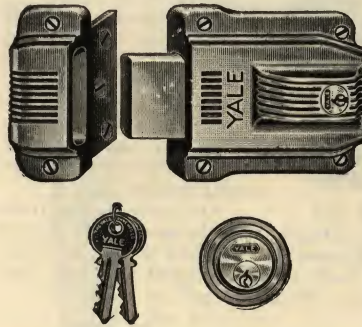
Cast bronze case, $4\frac{3}{8} \times 2\frac{3}{4}$ inches; standard backset, $2\frac{3}{8}$ inches; strike, cylinder, bolts, etc.

Has countersunk cylinder ring. Dull bronze finish.

Furnished with 2 nickel silver keys. Key changes, unlimited.

Packed 1 in a box, shipping weight, $2\frac{1}{8}$ pounds; 100 in a case, shipping weight, 230 pounds.

No. 112 $\frac{1}{4}$ Yale Cylinder Rim Deadlocks Extra Heavy—Long Throw



For doors $1\frac{1}{8}$ to $3\frac{1}{8}$ inches thick, either right or left hand opening in.

Rustless case, $3\frac{3}{8} \times 3\frac{1}{2} \times 1\frac{1}{8}$ inches, gray enamel finish; backset, $2\frac{3}{8}$ inches; die-cast bolt with hardened steel inserts, $1\frac{1}{8}$ -inch throw; No. 1109 brass cylinder for outside of door, five pin-tumblers; two No. 8 keys; changes practically unlimited;

master-keyed and grand master-keyed.

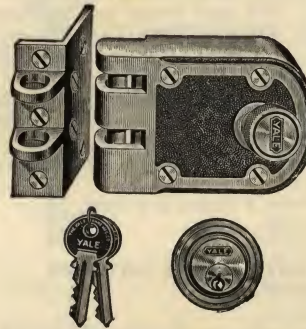
Operated by key from either side.

Packed 1 in a box with screws and rim strike.

Weight, $2\frac{1}{2}$ pounds.

No. 112 $\frac{1}{4}$per dozen

Yale Cylinder Rim Deadlocks



No. 197. For single or double doors and double sliding doors $1\frac{1}{8}$ to $3\frac{1}{8}$ inches thick, either right or left hand. Reversible, for doors opening in.

Rustless case, $2\frac{7}{8} \times 4\frac{5}{8} \times 1$ inches; backset, $2\frac{3}{8}$ inches; bronze knob; No. 1109 bronze five pin-tumbler cylinder; two No. 8 keys; changes practically unlimited.

Two hardened steel interlocking bolts operated by key from outside and knob from inside.

One in box with screws and angle strike. Wt., 2 lb.

No. 197, Dull Bronze Finish.....per dozen

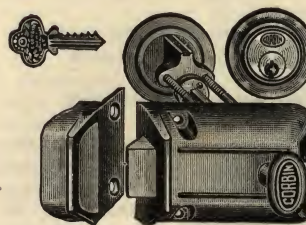
No. 197 $\frac{1}{4}$. Same as No. 197 except three pin-tumbler inside cylinder in place of knob is built into lock case. Case is attached by non-removable surface screws and has $1\frac{1}{8}$ -inch return with two additional screws.

Operates by key from either side.

One in box with screws and angle strike. Wt., $2\frac{1}{4}$ lb.

No. 197 $\frac{1}{4}$, Dull Bronze Finish.....per dozen

No. 3A6 Corbin Cylinder Night Latches



For doors $1\frac{1}{8}$ to $2\frac{3}{4}$ inches thick. For doors opening in.

Die-cast aluminum case, $2\frac{7}{16} \times 3\frac{5}{8} \times 1\frac{1}{16}$ inches; backset, $2\frac{3}{8}$ inches; die-cast aluminum bolt with $\frac{9}{16}$ -inch throw; wrought aluminum strike; wrought brass knob; one No. 251 cast brass, pin-tumbler cylinder; two nickel silver keys;

changes practically unlimited.

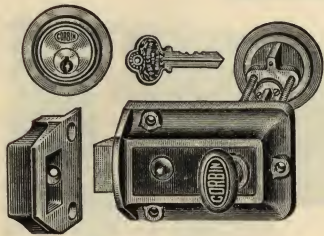
Operates by key from outside and by knob from inside. Bolt may be retracted by quarter turn of key or knob in counter-clockwise direction, permitting free hand operation of the door knob.

Wrought steel, brass plated angle strike for doors opening out can be furnished in place of rim strike, when ordered.

Packed 1 in a box with screws; 1 dozen in a carton.

Weight per carton, $12\frac{1}{4}$ pounds.

No. 3A6, Neutral Gunmetal Finish.....per dozen

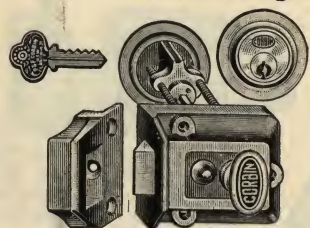
No. 356 Corbin Rim Night Latches

For doors 1 to 2½ inches thick.

Cast iron case, 2½x3½ inches; backset, 2¾ inches. Cast bronze bolt; knob. One No. 251 ball bearing cylinder; reversible. Two Class 77 nickel silver keys; changes practically unlimited.

Operates by key from outside and knob inside. Stop dead-locks against the key or holds bolt retracted. Regularly furnished with rim strike for doors opening in. Black finish. Packed 1 in box with screws. Weight per dozen, 20½ pounds.

No. 356.....per dozen

No. 456¼ Corbin Cylinder Rim Night Latches**Reversible**

For doors 1 to 2½ inches. Japanned cast iron case, 2½x3x1½ inches; backset, 1¾ inches; cast bronze latch bolt, ½-inch throw; one No. 251 cast brass ball bearing cylinder; two Class 77 nickel-silver keys; changes practically unlimited.

Operation by key from outside and knob from inside. Stop in case deadlocks against key or holds bolt retracted.

One wrought brass knob. With rim strike for door opening in; angle strike available for door opening out.

Packed 1 in a box with screws; 1 dozen in a case.

Weight per dozen, 18¾ pounds.

No. 456¾ Corbin Rim Night Latches**Reversible**

For doors 1 to 2½ inches thick.

Black wrinkle lacquer finish iron case, 2½x3½x1½ inches.

Backset, 2¾ inches; bronze knob; cast bronze bolt, ½-inch throw; No. 251 cast bronze cylinder; two No. 77 nickel silver keys; changes practically unlimited.

Operates by key from outside and knob from inside. Stop in case deadlocks against key or holds bolt retracted. Trip in center of latch bolt is held back by

contact with strike and secures bolt from being forced back by end pressure.

Packed 1 in a box with screws, rim and angle strikes.

No. 456¾, Weight per Dozen, 22¼ Pounds.....each

No. 360 Corbin Rim Deadlocks**Reversible**

Cast iron case with black finish, size 2½x3½x1½ inches; backset, 2¾ inches; cast bronze polished bolt, ½-inch throw; wrought brass knob. One No. 251

cast brass, ball-bearing cylinder; two Class 77 nickel silver keys; changes practically unlimited.

Operates by key from outside and turnknob from inside.

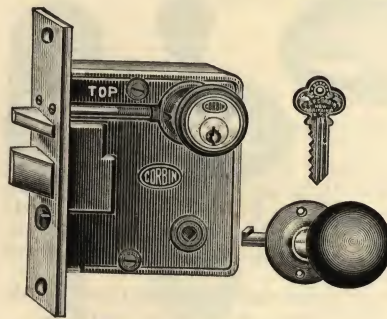
Furnished with cast

iron, black finish rim strike for doors opening in. Wrought steel, bronze-plated angle strike for doors opening out. Furnished to order.

No. 360, 1 in Box, Screws; Wt. Doz., 23¼ Lb. per doz.

No. 0548 Corbin Cylinder Mortise Night Latches**Reversible**

Case, 4½x3½x3¼ inches; cast brass or bronze front, 6x1¾ inches; backset, 2¾ inches; cast bronze spring latch bolt, ½-inch throw; strike, lip to center, 1¼ inches; gunmetal hub, ½ inch; one No. 253 cast brass or bronze ball bearing cylinder; two Class 77 nickel-silver



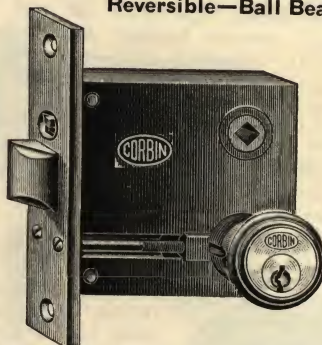
keys; changes practically unlimited.

Operation by key from outside and knob from inside. Stop can be set to hold latch retracted. Auxiliary latch automatically locks latch bolt so that it cannot be forced back by end pressure when door is closed.

One No. 1920 cast brass or bronze knob.

Specify door thickness.

Packed 1 in a box with screws. Weight, 3 pounds.

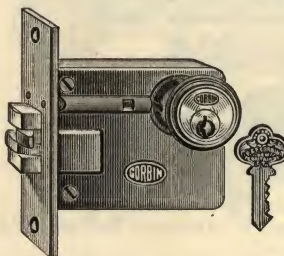
No. B0558 Corbin Mortise Night Latches**Reversible—Ball Bearing Cylinder**

Gloss black iron case, 3½x3½x1½ inches; backset, 2¾ inches, spacing, 1¾ inches. Can be furnished with 2½-inch backset when ordered. Width of case is ½ inch more than backset. Front, 5x1 inches; hub, ½ inch; strike, lip to center, 1¼ inches.

Easy spring latch bolt. Operates by key from outside and knob from inside. Latch bolt is held retracted by stop in face. No. 1920 knob; one cylinder No. 253; nickel silver keys, class 77; unlimited changes.

Packed 1 in a box with screws. Weight per dozen, 28 pounds.

No. B0558, Natural Color, Polished.....each

No. 134¼ Corbin Cylinder Mortise Sliding Door Locks

Japanned iron case, 2¾x3½x¾ inches; cast brass or bronze front, 4¾x1½ inches; backset, 2¾ inches; cast bronze bolt; strike, 3½x1½ inches; one No. 253 cast brass or bronze ball bearing cylinder; two Class 77 nickel-silver keys; changes practically unlimited.

Operation by key from one side only.

Specify thickness of door.

Packed 1 in a box with screws.

Weight, 2 pounds.

Ives Mortise Door Bolts



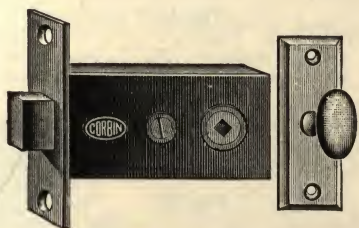
Wrought brass case, $2\frac{1}{2}$ inches long, $\frac{9}{16}$ -inch diameter; backset, $1\frac{3}{4}$ inches; steel plated strike, $1\frac{3}{4} \times \frac{7}{8}$ inches; steel plated bolt, $\frac{1}{2}$ -inch diameter; throw, $\frac{1}{2}$ inch.

Brass or bronze knob and escutcheon, polished.
Packed 1 dozen in a box with screws.

Weight per dozen, 3 pounds.

No. 48B3, Bright Brass.....	per dozen	\$11.56
No. 48B4, Dull Brass.....	per dozen	11.56
No. 48B9, Bright Bronze.....	per dozen	11.56
No. 48B10, Dull Bronze.....	per dozen	11.56
No. 48B14, Bright Nickel.....	per dozen	12.08
No. 48B15, Dull Nickel.....	per dozen	12.08
No. 48B19, Dead Black.....	per dozen	11.56
No. 48B26, Bright Chromium.....	per dozen	13.14
No. 48B26D, Dull Chromium.....	per dozen	13.14

No. 164 Corbin Mortise Door Bolts



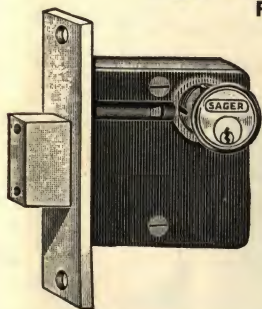
Japanned iron case, $1\frac{1}{2} \times 3\frac{1}{2} \times 1\frac{1}{2}$ inches; front, $\frac{7}{8} \times 3\frac{1}{4}$ inches; backset, $2\frac{5}{8}$ inches; hub, $\frac{3}{16}$ inch.

Has oval thumb turn.

No. EA164, Dull Brass Finish.....	each	\$4.00
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Sager Mortise Deadlocks

Reversible



Specify thickness of door.
Japanned iron case, $3\frac{7}{8} \times 3\frac{5}{8} \times \frac{7}{8}$ inches; regular backset, $2\frac{1}{2}$ inches; cast bronze, flat, armored front, $5\frac{7}{8} \times 1\frac{1}{4}$ inches; cast bronze bolt, $1\frac{3}{4} \times \frac{5}{8}$ inches, 1-inch throw; bronze strike. No. 1901 cast bronze cylinder; three No. 1888 keys; changes practically unlimited.

Dead bolt is extra heavy, with two casehardened pins in center to prevent cutting when locked.

Can be furnished with 2-inch backset with flat or round face.
Packed 1 in a box with screws.

No. 974

Has one cylinder. Operates by key from one side only.

No. 974xA30, Polished Brass.....	each	\$12.50
No. 974xD30, Dull Brass.....	each	12.50
No. 974xD20, Dull Bronze.....	each	12.50
No. 974xA110, Polished Chromium.....	each	13.50
No. 974xD110, Dull Chromium.....	each	13.50

No. 974T

Has one cylinder and one No. 2411 $\frac{1}{2}$ bronze turnknob. Operates by key from outside and turnknob from inside.

No. 974TxA30, Polished Brass.....	each	\$12.80
No. 974TxD30, Dull Brass.....	each	12.80
No. 974TxD20, Dull Bronze.....	each	12.80
No. 974TxA110, Polished Chromium.....	each	14.00
No. 974TxD110, Dull Chromium.....	each	14.00

No. 974 $\frac{1}{2}$

Has two cylinders. Operates by key from either side.

No. 974 $\frac{1}{2}$ xA30, Polished Brass.....	each	\$14.60
No. 974 $\frac{1}{2}$ xD30, Dull Brass.....	each	14.60
No. 974 $\frac{1}{2}$ xD20, Dull Bronze.....	each	14.60
No. 974 $\frac{1}{2}$ xA110, Polished Chromium.....	each	15.60
No. 974 $\frac{1}{2}$ xD110, Dull Chromium.....	each	15.60

Corbin Extension Flush Bolts

Cast Brass, Polished

The length of extension flush bolt is measured from pivot pin of the lever to end of bolt head when retracted.

Dull brass finish. State size.

Rods packed separate.

No. EA2659

Size plate, $5\frac{7}{8} \times \frac{5}{8}$ inches.

Packed 6 in a box with screws.

Length.....in.	6	8	12	18
No. EA2659.....each	.....	.....	.....	.....
Wt. per Doz.....lb.	6	6 $\frac{3}{8}$	6 $\frac{3}{4}$	7 $\frac{1}{4}$

No. EA2859

Size plate, $6\frac{3}{4} \times 1\frac{1}{4}$ inches.

Packed with screws.

Length.....in.	*6	*8	*12	18	24
No. EA2859.....ea.	.....	.....	.....	.....	.....
No. per Box..	1	1	2	2	2
Wt. per Doz....lb.	12 $\frac{1}{2}$	12 $\frac{3}{4}$	13 $\frac{1}{2}$	14 $\frac{3}{4}$	16 $\frac{1}{4}$

*With rods.



Corbin Surface Door Bolts



Has half oval rod.

Dull brass finish.

Supplied with angle and $1\frac{1}{4} \times 1$ -inch flat lip strikes.

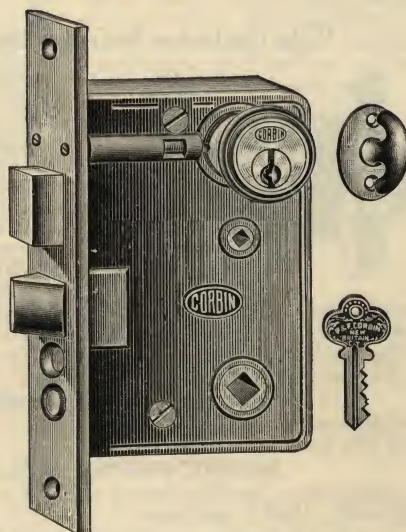
When ordering, specify length desired.

Packed with screws.

	—Wrought Brass—		—Wrought Steel—	
No.....	EA1578	EA1580 $\frac{1}{2}$	EA3578	EA3580 $\frac{1}{2}$
Length.....in.	4, 6,	6, 9, 12,	4, 6,	6, 9, 12,
	.....	18	.....	18
Knob Diam.....in.	$\frac{7}{16}$	$\frac{3}{4}$	$\frac{7}{16}$	$\frac{3}{4}$
Projection.....in.	$\frac{3}{4}$	1	$\frac{3}{4}$	1
Guides Width.....in.	$1\frac{3}{8}$	$1\frac{1}{2}$	$1\frac{3}{8}$	$1\frac{1}{2}$
Rod Width.....in.	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{1}{2}$
Throw of Bolt.....in.	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{5}{8}$	$\frac{3}{4}$
Angle Strike.....in.	$5\frac{7}{8} \times 1\frac{1}{2} \times \frac{1}{2}$	$3\frac{1}{4} \times 2 \times \frac{1}{2}$	$5\frac{7}{8} \times 1\frac{1}{2} \times \frac{1}{2}$	$3\frac{1}{4} \times 2 \times \frac{1}{2}$

No. 1343 Corbin Mortise Front Door Locks

Reversible

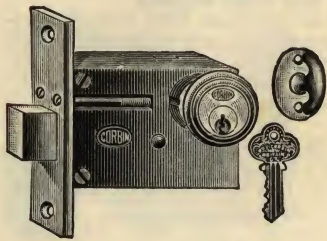


Japanned iron case, $5\frac{7}{8} \times 3\frac{5}{8} \times \frac{3}{4}$ inches; cast brass front and bolts.

Front, $1 \times 7\frac{7}{8}$ inches; backset, $2\frac{1}{2}$ inches. One ball-bearing cylinder, three keys and one thumb knob on plate.

No. EA1343 Dull Brass Finish.....	each	\$14.30
No. F1343 Bower Barff Finish.....	each	14.30

Corbin Cylinder Mortise Dead Locks



Gloss black iron case, $2\frac{1}{2} \times 3\frac{3}{4} \times \frac{3}{4}$ inch; *backset, $2\frac{3}{4}$ inches; cast bronze front, polished, $4\frac{1}{16} \times 1\frac{1}{16}$ inch; dead bolt with $\frac{3}{4}$ -inch throw; reversible.

Furnished with rounded, beveled or armored front, when so ordered. For armored front, add symbol AR to number; i.e., 6011AR. Rounded

front to 4-inch radius unless otherwise ordered.

Two nickel silver keys, unlimited changes.

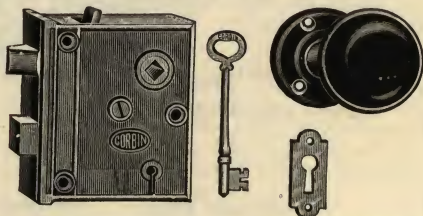
OPERATION. No. 6011 by key from one side only. No. 6012 by key from either side. No. 6013 by key from outside and thumb knob from the inside.

Packed 1 in a box, with screws.

No.	Each	Cast Bronze Thumb Knob	Cylinders	Wt. Lb. per Doz.
6011	One No. 253	21
6012	Two No. 253	27
6013	One No. 2145	One No. 253	24

*Can be furnished 1, $1\frac{1}{2}$, $1\frac{3}{4}$, 2, $2\frac{1}{4}$, or $2\frac{1}{2}$ inches backset when so ordered.

No. 3318 Corbin Rim Lock Sets Reversible



No. 961

No. J1523 1/2

Sets are furnished with lock No. 961. Case, $3\frac{7}{8} \times 3\frac{1}{4}$ inches; backset, $2\frac{3}{8}$ inches; with stop. Iron hub, $\frac{5}{16}$ inch.

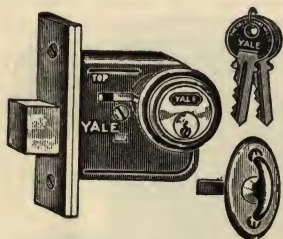
Operates latch bolt by knob from either side. Dead bolt by key from either side. Stop inside deadlocks the latch bolt.

Case is cast iron, gloss black; bolts, cast iron. One nickel-plated cast iron key, Class 011 1/4. One tumbler; 6 changes. Knob No. J1523 1/2, steel gloss black.

Packed 1 set in a box with screws; $2\frac{1}{2}$ dozen in a case.

Set No.	3318
Per Dozen .....	...
Weight per Case, ($2\frac{1}{2}$ Dozen)	56 pounds

Yale Cylinder Mortise Deadlocks



For doors $1\frac{3}{8}$ or $1\frac{3}{4}$ inches thick, or as specified. Reversible, for doors of either right or left hand.

Bronze armored flat front, $4 \times 1\frac{1}{16}$ inches; backset, $2\frac{1}{2}$ inches; $\frac{1}{2} \times 1$ -inch bronze bolt, $\frac{1}{16}$ -inch throw; No. 1122 bronze cylinder, five pin-tumblers; two No. 8 keys; changes practically

unlimited; master-keyed and grand master-keyed with other locks having same No. key.

Packed 1 in a box with screws.

Weight Nos. 324 and 325, $1\frac{3}{4}$ pounds.

No. 324 with One Cylinder

Operated by key from outside.

No. 324, Dull Brass Finish.....each

No. 324 1/4 with Two Cylinders

Operated by key from either side.

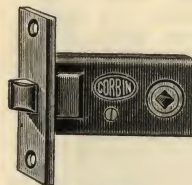
No. 324 1/4, Dull Brass Finish.....each

No. 325 with One Cylinder and Turnknob

Operated by key from outside and turnknob from inside.

No. 325, Dull Brass Finish.....each

Corbin Mortise Knob Latches Reversible



No. 045

No. 045

Japanned iron case, $1\frac{5}{8} \times 3\frac{1}{8} \times \frac{9}{16}$ inches; cast brass or bronze front, $3\frac{3}{8} \times \frac{7}{8}$ inches; backset, $2\frac{1}{2}$ inches; cast bronze spring latch bolt, $\frac{1}{32}$ -inch throw; strike, lip to center, 1 inch; iron hub, $\frac{5}{16}$ inch.

Operation: latch bolt by knob from either side.

Packed 6 in a box with screws.

No. 045, Weight per Dozen, 7 Pounds.....per dozen

No. 049

Japanned iron case, $2\frac{1}{4} \times 3\frac{9}{16} \times \frac{5}{8}$ inches; cast brass or bronze front, 4×1 inches; backset, $2\frac{3}{4}$ inches; cast bronze spring latch bolt, $\frac{1}{16}$ -inch throw; strike, lip to center, $1\frac{1}{8}$ inches; gunmetal hub, $\frac{5}{16}$ inch.

Operation by knob from either side.

Packed 6 in a box with screws.

No. 049, Weight per Dozen, $12\frac{1}{4}$ Pounds...per dozen

No. 0

Japanned iron case, $1\frac{5}{16} \times 3\frac{1}{4} \times 1\frac{1}{2}$ inches; wrought steel front, $2\frac{7}{8} \times \frac{7}{8}$ inches; backset, $2\frac{5}{8}$ inches; cast iron latch bolt, $\frac{1}{32}$ -inch throw; strike, lip to center, 1 inch; iron hub, $\frac{5}{16}$ inch.

Operation: latch bolt by knob from either side.

Packed 6 in a box with screws.

No. 0, Weight per Dozen, 5 Pounds.....per dozen

No. 10

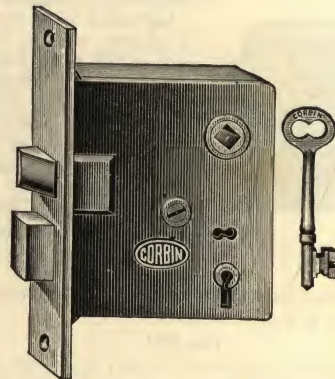
Japanned iron case, $1\frac{5}{16} \times 3\frac{1}{4} \times 1\frac{1}{2}$ inches; wrought brass or bronze front, $2\frac{7}{8} \times \frac{7}{8}$ inches; backset, $2\frac{5}{8}$ inches; cast bronze latch bolt, $\frac{1}{32}$ -inch throw; strike, lip to center, 1 inch; iron hub, $\frac{5}{16}$ inch.

Operation: latch bolt by knob from either side.

Packed 6 in a box with screws.

No. 10, Weight per Dozen, $5\frac{3}{4}$ Pounds.....per dozen

Corbin Mortise Knob Locks



Cast brass front and bolts except No. EA13271 which has steel front and iron bolts. Japanned iron case.

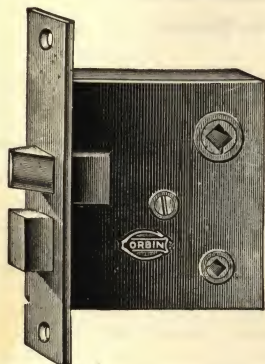
No. EA785 has one tumbler. No. EA785 3/4 has three tumblers. No. EA785 1/2 is master-keyed. No. EA1284 and No. EA13271 have one tumbler. All locks furnished with one key.

Dull brass finish.

No.	Each	Case Inches	Backset Inches	Spacing Inches	Front Inches
EA 785	\$4.70	$3\frac{5}{8} \times 3\frac{1}{4} \times \frac{9}{16}$	$2\frac{9}{16}$	$2\frac{3}{16}$	$1\frac{5}{16} \times 5\frac{1}{2}$
EA 785 3/4	5.40	$3\frac{5}{8} \times 3\frac{1}{4} \times \frac{9}{16}$	$2\frac{9}{16}$	$2\frac{3}{16}$	$1\frac{5}{16} \times 5\frac{1}{2}$
EA 785 1/2	6.50	$3\frac{5}{8} \times 3\frac{1}{4} \times \frac{9}{16}$	$2\frac{9}{16}$	$2\frac{3}{16}$	$1\frac{5}{16} \times 5\frac{1}{2}$
EA1284	3.00	$3\frac{5}{8} \times 3\frac{1}{4} \times \frac{9}{16}$	$2\frac{3}{8}$	$2\frac{3}{16}$	$1\frac{5}{8} \times 5\frac{1}{4}$
EA13271	1.60	$3\frac{5}{8} \times 3\frac{1}{8} \times \frac{1}{2}$	$2\frac{3}{8}$	$2\frac{3}{16}$	$1\frac{5}{8} \times 5\frac{1}{4}$

Corbin Mortise Bathroom Locks

Japanned iron case, size, $3\frac{3}{4} \times 3\frac{1}{4} \times \frac{9}{16}$ inches.



No. 859

Cast brass front and bolts. Front, $\frac{7}{8} \times 5\frac{1}{2}$ inches; backset, $2\frac{1}{2}$ inches.

No. EA859, Dull Brass Finish each \$5.00

No. E859, N.P. Finish..... each \$6.00

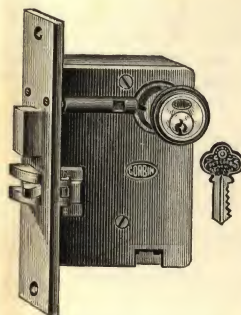
No. 13159

Steel face iron bolts. Front, $\frac{7}{8} \times 5$ inches; backset, $2\frac{3}{4}$ inches.

No. E13159, N.P. Finish... each \$4.00

No. 0288 Corbin Cylinder Mortise Store Door Locks

Reversible



Japanned iron case, $5\frac{1}{4} \times 3\frac{3}{4} \times \frac{3}{4}$ inches; cast brass or bronze flat front, $8 \times 1\frac{1}{4}$ inches; backset, $2\frac{3}{4}$ inches; cast bronze anti-friction latch bolt, $\frac{7}{16}$ -inch throw; cast bronze dead bolt, $\frac{3}{4}$ -inch throw; strike: flat— $5\frac{3}{4} \times 1\frac{1}{4} \times \frac{1}{8}$ inches, lip to center— $1\frac{1}{4}$ inches; two No. 253 cast brass or bronze cylinders; two Class 77 nickel-silver keys; changes practically unlimited.

Operation: latch bolt by thumb piece and dead bolt by key from either side.

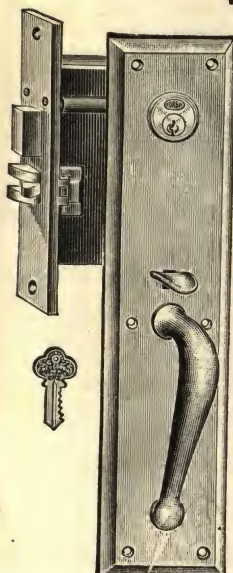
Specify thickness of door.

Packed 1 in a box with screws.

Weight, $3\frac{1}{2}$ pounds.

No. 702-991 Corbin Cylinder Store Door Handle Locksets

Wrought Brass



No. 0288 Lock; gloss black iron case, $5\frac{1}{4} \times 3\frac{3}{4} \times \frac{3}{4}$ inch; backset, $2\frac{3}{4}$ inches; cast bronze front, polished, $8 \times 1\frac{1}{4}$ inches; reversible. Dimensions of this lock conform to standards established for the convenience of metal door manufacturers.

Two nickel silver keys; unlimited changes.

One pair of No. 70281 Handles, size $1\frac{1}{2} \times 2\frac{3}{4}$ inches; Grip No. 4416.

OPERATION. Latch bolt by thumb piece from either side. Dead bolt by key from either side.

Packed 1 set in a box, with screws.

Weight per set, $7\frac{1}{4}$ lb.

No. EA-702-991 Brass Natural Color, Dull. per set

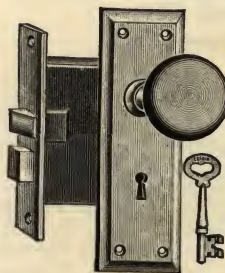
Corbin Inside Locksets

No. 702132, Wrought Brass

This set consists of: one pair of $2\frac{1}{4}$ -inch seamless knobs; two escutcheons, $2\frac{1}{4} \times 7$ inches; No. 1284 lock with cast brass front and bolts, japanned iron case $3\frac{5}{8} \times 3\frac{1}{2} \times \frac{1}{2}$ inch. Backset, $2\frac{3}{4}$ inches; spacing, $2\frac{3}{16}$ inches; front, $\frac{7}{8} \times 5\frac{1}{4}$ inches. One tumbler, one key.

No. EA702132 Dull Brass Finish..... per set \$4.80

No. F702132 Bower Barff Finish..... per set 4.80



No. 602048, Wrought Steel

Consists of: one pair of $2\frac{1}{4}$ -inch seamless knobs; two escutcheons, $2\frac{1}{4} \times 7$ inches; No. 13271 lock with steel front and iron bolts, japanned iron case $3\frac{5}{8} \times 3\frac{1}{2} \times \frac{1}{2}$ inch. Backset, $2\frac{3}{4}$ inches; spacing, $2\frac{3}{16}$ inches; front, $\frac{7}{8} \times 5\frac{1}{4}$ inches. One tumbler, one key.

No. EA602048 Dull Brass Finish..... per dozen \$33.60

No. KF602048 Imitation Bower Barff Finish. per doz. 33.60

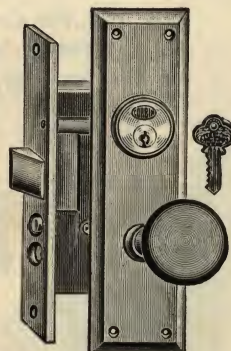
No. 702742 Corbin Cylinder Vestibule Locksets

Wrought Brass

This set consists of: one pair of $2\frac{1}{4}$ -inch seamless knobs; No. 1323 lock with japanned iron case $4\frac{5}{8} \times 3\frac{5}{8} \times 1\frac{1}{16}$ inches; cast brass front and bolt. Front, $1 \times 6\frac{7}{8}$ inches; backset, $2\frac{1}{2}$ inches. One ball-bearing cylinder, three keys. Outside escutcheon, $2\frac{1}{2} \times 9$ inches; inside, $2\frac{1}{4} \times 7$ inches.

No. EA702742 Dull Brass Finish..... per set \$14.50

No. F702742 Bower Barff Finish..... per set 14.50



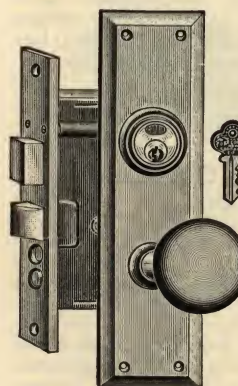
No. 702842 Corbin Cylinder Front Door Locksets

Wrought Brass

Consists of: one pair of $2\frac{1}{4}$ -inch seamless knobs; No. 1343 lock with japanned iron case $5\frac{5}{8} \times 3\frac{5}{8} \times \frac{1}{2}$ inches; cast brass front and bolts. Front, $1 \times 7\frac{7}{8}$ inches; backset, $2\frac{1}{2}$ inches. One ball-bearing cylinder, three keys. Outside escutcheon. 3×10 inches; inside, $2\frac{1}{4} \times 7$ inches with thumb turn.

No. EA702842 Dull Brass Finish..... per set \$15.50

No. F702842 Bower Barff Finish..... per set 15.50



Corbin Bathroom Locksets

No. 702436, Wrought Brass

Set consists of: one $2\frac{1}{4}$ -inch seamless knob; one escutcheon, $2\frac{1}{4} \times 7$ inches with thumb turn; No. 159 lock with japanned iron case $3\frac{5}{8} \times 3\frac{1}{4} \times \frac{9}{16}$ inches; cast brass front and bolts. Front, $1\frac{1}{2} \times 5\frac{1}{2}$ inches; backset, $2\frac{3}{4}$ inches.

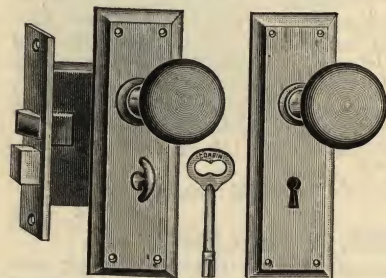
No. E702436 Nickel-Plated Finish..... per set \$6.00

No. 602072, Wrought Steel

Consists of: one $2\frac{1}{4}$ -inch seamless knob; one escutcheon, $2\frac{1}{4} \times 7$ inches with thumb turn; No. 13159 lock with japanned iron case $3\frac{5}{8} \times 3\frac{1}{4} \times \frac{9}{16}$ inches; steel face iron bolts. Front, $\frac{7}{8} \times 5$ inches; backset, $2\frac{3}{4}$ inches.

No. E602072 Nickel-Plated Finish..... per set \$3.60

No. 702-438 Corbin Portland Design Bathroom Door Lock Sets Wrought Brass or Bronze



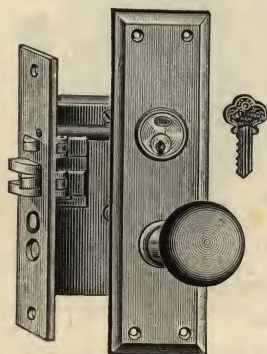
No. 859 Lock: Japanned iron case, $3\frac{3}{4} \times 3\frac{1}{4} \times \frac{9}{16}$ in.; cast brass or bronze front, $5\frac{1}{2} \times \frac{7}{8}$ in.; backset, $2\frac{1}{2}$ in.; cast bronze spring latch bolt, $\frac{3}{8}$ -inch throw; cast bronze dead bolt, $\frac{1}{2}$ -inch throw; strike, lip to center, 1 inch; iron hubs, $\frac{5}{16}$ and $\frac{3}{16}$

inch; reversible; one Class 359 $\frac{1}{2}$ nickel plated emergency key.
OPERATION: Latch bolt by knob from either side. Dead bolt by thumb knob from inside only and by emergency key from outside.

TRIM: Two No. 70231 wrought brass or bronze escutcheons, $7 \times 2\frac{1}{4}$ inches and two No. 1419 $\frac{1}{2}$ wrought brass or bronze seamless knobs, $2\frac{1}{4}$ inches in diameter.

Packed 1 set in a box with screws; $2\frac{1}{2}$ dozen in a case.
Weight per dozen sets, $28\frac{1}{4}$ pounds.

No. 702-750 Corbin Portland Design Vestibule Door Lock Sets Wrought Brass



Lock No. 01339. Gloss black iron case, $5 \times 3\frac{1}{2} \times \frac{3}{4}$ inches; cast bronze front, $8 \times 1\frac{1}{4}$ inches; backset, $2\frac{3}{4}$ inches; cast bronze latch bolt, $\frac{7}{16}$ -inch throw; strike $5\frac{3}{4} \times 1\frac{1}{4} \times \frac{1}{8}$ inches, lip to center, $1\frac{1}{4}$ inches. One No. 253 ball bearing cast bronze cylinder; not reversible. Two Class 67 nickel silver keys, changes practically unlimited.

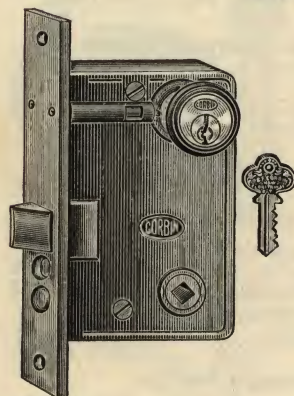
OPERATION. By key from outside and by knobs from either side except when outside knob is locked by stops in face. Auxiliary latch automatically locks the latch bolt so that it cannot

be forced back by end pressure when the door is closed, but does not prevent key or knobs from operating latch bolt.

When ordering, state hand and thickness of door.
Packed 1 set in a box with screws.

No. EA702-750, Dull Brass.....per set

No. 6031 Corbin Mortise Office and Vestibule Locks Reversible



For doors at least $1\frac{3}{8}$ inches thick.

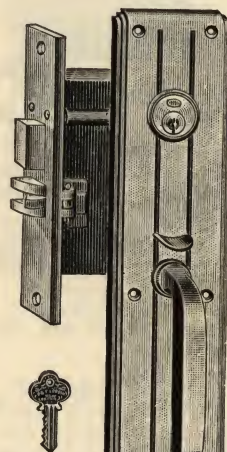
Cast iron japanned case, $5\frac{5}{8} \times 3\frac{5}{8} \times \frac{3}{4}$ inches; cast brass or bronze front, $7\frac{7}{8} \times 1$ inches; backset, $2\frac{1}{2}$ inches; cast bronze spring latch bolt, $\frac{7}{16}$ -inch throw; gunmetal hub, $\frac{5}{16}$ inch and $\frac{3}{8} \times \frac{3}{16}$ -inch swivel; wrought brass or bronze strike, $5 \times 1\frac{1}{8}$ inches; lip to center, $1\frac{1}{4}$ inches; one No. 253 cast brass or bronze cylinder; two Class 77 nickel-silver keys.

Operation by key from outside and by knob from either side except when outside knob is locked by stop in face.

Packed 1 in a box with screws.

Weight, $3\frac{1}{4}$ pounds.

No. 727-990 Corbin Barre Design Store Door Handle Lock Sets Wrought Brass or Bronze



Reversible, for doors of either hand.

No. 0288 Lock: Japanned iron case, $5\frac{1}{4} \times 3\frac{3}{4} \times \frac{3}{4}$ inches; cast brass or bronze flat front, $8 \times 1\frac{1}{4}$ inches; backset, $2\frac{3}{4}$ inches; cast bronze anti-friction latch bolt, $\frac{7}{16}$ -inch throw; cast bronze dead bolt, $\frac{3}{4}$ -inch throw; strike: flat— $5\frac{3}{4} \times 1\frac{1}{4} \times \frac{1}{8}$ inches, lip to center— $1\frac{1}{4}$ inches; two No. 253 cast brass or bronze cylinders; two Class 77 nickel-silver keys; changes practically unlimited.

OPERATION: Latch bolt by thumb piece and dead bolt by key from either side.

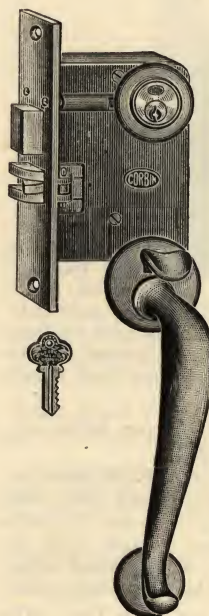
TRIM: One pair of No. 72780 wrought brass or bronze handles, size 15×3 inches with No. 4394 cast brass or bronze grips, projection $2\frac{1}{8}$ inches.

Specify thickness of door.

Packed 1 set in a box with screws.

Weight per set, $7\frac{1}{4}$ pounds.

No. 752-888 Corbin Chelsea Design Entrance Door Sectional Handle Lock Sets Cast Brass or Bronze



Reversible, for doors of either hand.

No. 1347 $\frac{1}{2}$ Lock: Japanned iron case, $5\frac{1}{4} \times 3\frac{3}{4} \times \frac{3}{4}$ inches; cast brass or bronze flat front, $8 \times 1\frac{1}{4}$ inches; backset, $2\frac{3}{4}$ inches; cast bronze anti-friction latch bolt, $\frac{7}{16}$ -inch throw; cast bronze dead bolt, $\frac{3}{4}$ -inch throw; strike: flat— $5\frac{3}{4} \times 1\frac{1}{4} \times \frac{1}{8}$ inches, lip to center— $1\frac{1}{4}$ inches; two No. 253 cast brass or bronze ball bearing cylinders; two Class 77 nickel-silver keys; changes practically unlimited.

OPERATION: Latch bolt by thumb piece and dead bolt by key from either side.

TRIM: One pair of No. 75284 cast brass or bronze handles, size $10\frac{1}{4} \times 2\frac{1}{2}$ inches with No. 4419 $\frac{1}{2}$ cast brass or bronze grips, projection $2\frac{3}{8}$ inches. One pair No. 75213 cylinder collars, 2 inches in diameter.

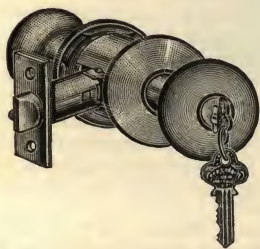
Specify thickness of door.

Packed 1 set in a box with screws.

Weight per set, $8\frac{3}{4}$ pounds.

No. 230-851 Corbin Light Duty Cylindrical Entrance Door Lock Sets

Wrought Brass, Bronze or Aluminum



For entrance, vestibule or other exterior doors.

Adjustable for doors $1\frac{1}{4}$ to $1\frac{3}{4}$ inches thick. Reversible.

Lock: Steel, zinc plated, Dichromate dip case, $\frac{13}{16}$ -inch diameter for $\frac{7}{8}$ -inch hole in doors; wrought brass, bronze or aluminum flat front, $2\frac{1}{4} \times 1$ inches; backset, $2\frac{1}{4}$ inches; steel, zinc plated, Dichromate dip cylindrical case, $1\frac{11}{16}$ -inch diameter for 2-inch hole in door; No. 845 $\frac{1}{4}$ solid brass plain reversible latch with throw off feature, $\frac{3}{8}$ -inch throw; extruded brass, ball bearing, 5-pin tumbler type cylinder; two Class 77 nickel plated keys; can be mastered.

OPERATION: Latch bolt by knob from either side except when outside knob is locked by turn button in inside knob. By key from outside at all times. When door is closed, latch bolt is automatically deadlocked.

TRIM: One two-piece wrought brass, bronze or aluminum knob for outside, diameter, $2\frac{1}{8}$ inches and one one-piece wrought brass, bronze or aluminum knob with turn button for inside, diameter, 2 inches. Knobs are screwless, self-aligning, snap-on type. With two $2\frac{3}{8}$ -inch diameter wrought brass, bronze or aluminum roses.

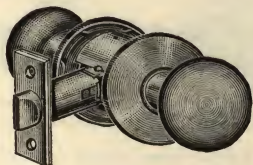
Specify hand when ordering.

Packed 1 set in a box with screws.

Weight, $1\frac{3}{4}$ pounds.

No. 230-810 Corbin Light Duty Cylindrical Knob Latch Sets

Wrought Brass, Bronze or Aluminum



For passage doors or any door that does not require locking.

Adjustable for doors $1\frac{1}{4}$ to $1\frac{3}{4}$ inches thick. Reversible.

Lock: Steel, zinc plated Dichromate dip case, $\frac{13}{16}$ -inch diameter for $\frac{7}{8}$ -inch hole in doors; wrought brass, bronze or aluminum flat front, $2\frac{1}{4} \times 1$ inches; backset, $2\frac{1}{4}$ inches; steel, zinc plated Dichromate dip cylindrical case, $1\frac{11}{16}$ -inch diameter for 2-inch hole in door; No. 845 solid brass plain reversible latch, $\frac{3}{8}$ -inch throw; extruded brass, ball bearing, 5-pin tumbler type cylinder.

OPERATION: Latch bolt by knob from either side at all times.

TRIM: Two one-piece wrought brass, bronze or aluminum knobs, diameter, 2 inches. Knobs are screwless, self-aligning, snap-on type. With two $2\frac{3}{8}$ -inch diameter wrought brass, bronze or aluminum roses.

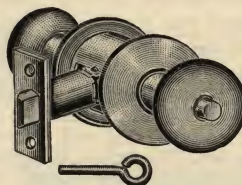
Specify hand when ordering.

Packed 1 set in a box with screws.

Weight, $1\frac{1}{2}$ pounds.

No. 230-820 Corbin Light Duty Cylindrical Privacy Lock Sets

Wrought Brass, Bronze or Aluminum



For use on bathroom or bedroom doors.

Adjustable for doors $1\frac{1}{4}$ to $1\frac{3}{4}$ inches thick. Reversible.

Lock: Steel, zinc plated, Dichromate dip case, $\frac{13}{16}$ -inch diameter for $\frac{7}{8}$ -inch hole in doors; wrought brass, bronze or aluminum flat front, $2\frac{1}{4} \times 1$ inches; backset, $2\frac{1}{4}$ inches; steel, zinc plated Dichromate dip cylindrical case, $1\frac{11}{16}$ -inch diameter for 2-inch hole in door; No. 845 $\frac{1}{4}$ solid brass plain reversible latch with throw off feature, $\frac{3}{8}$ -inch throw; extruded brass, ball bearing, 5-pin tumbler type cylinder; one emergency key.

OPERATION: Latch bolt by knob from either side except when outside knob is locked by pushing in button in inside knob. Turning inside knob or closing door releases locking button. Pressure of emergency key or other pointed instrument against emergency device in center of outside knob releases locking mechanism.

TRIM: Two one-piece wrought brass, bronze or aluminum knobs, diameter, 2 inches. Inside knob has push-in locking button. Knobs are screwless, self-aligning, snap-on type with two $2\frac{3}{8}$ -inch diameter wrought brass, bronze or aluminum roses.

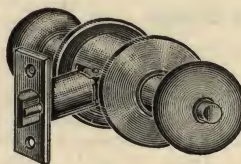
Specify hand when ordering.

Packed 1 set in a box with screws.

Weight, $1\frac{5}{8}$ pounds.

No. 230-841 Corbin Light Duty Cylindrical Privacy Lock Sets

Wrought Brass, Bronze or Aluminum



For doors that require locking only when room is occupied, or for doors to sun deck, basement, etc.

Can also be used for bedroom or bathroom doors if emergency operation from outside is not required.

Adjustable for doors $1\frac{1}{4}$ to $1\frac{3}{4}$ inches thick. Reversible.

Lock: Steel, zinc plated Dichromate dip case, $\frac{13}{16}$ -inch diameter for $\frac{7}{8}$ -inch hole in doors; wrought brass, bronze or aluminum flat front, $2\frac{1}{4} \times 1$ inches; backset, $2\frac{1}{4}$ inches; steel, zinc plated Dichromate dip cylindrical case, $1\frac{11}{16}$ -inch diameter for 2-inch hole in door; No. 0845 solid brass reversible auxiliary latch, $\frac{3}{8}$ -inch throw; extruded brass, ball bearing, 5-pin tumbler type cylinder.

OPERATION: Latch bolt by knob from either side except when outside knob is locked by pushing in button in inside knob. Turning inside knob or closing door releases locking button. When door is closed latch bolt is automatically deadlocked.

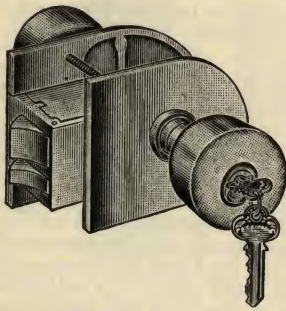
TRIM: Two one-piece wrought brass, bronze or aluminum knobs, diameter, 2 inches. Inside knob has push-in locking button. Knobs are screwless, self-aligning, snap-on type. With two $2\frac{3}{8}$ -inch diameter wrought brass, bronze or aluminum roses.

Specify hand when ordering.

Packed 1 set in a box with screws.

Weight, $1\frac{5}{8}$ pounds.

No. 904-751 Corbin Titan Design Entrance or Office Door Unit Locks
Cast Brass, Bronze or Aluminum



For either 1 $\frac{3}{8}$ or 1 $\frac{3}{4}$ -inch doors opening in. Reversible.

No. 751 Lock: One-piece cast brass, bronze or aluminum frame; case, 1 $\frac{3}{4}$ x3 $\frac{1}{4}$ inches; front: flat for 1 $\frac{3}{8}$ -inch door; beveled $\frac{1}{8}$ -inch in 2 inches for 1 $\frac{3}{4}$ -inch door; backset, 2 $\frac{1}{2}$ inches; swinging type latch bolt, $\frac{5}{8}$ -inch throw; wrought brass, bronze or aluminum strike with wrought box: lip from stop to end of lip, 1 $\frac{3}{4}$ inches for 1 $\frac{3}{8}$ -inch doors and 2 $\frac{1}{8}$ inches for 1 $\frac{3}{4}$ -

inch doors; No. 250 $\frac{1}{2}$ cast brass or bronze cylinder; two Class 77 nickel silver keys; can be master keyed.

OPERATION: By key from outside at all times. By knob from either side except when outside knob is locked by turn button in inside knob. Retracting latch bolt by key from outside or knob from inside does not disturb locking mechanism which is controlled only by turn button in inside knob. When door is closed auxiliary latch automatically deadlocks latch bolt making it proof against pressure.

TRIM: One cast brass, bronze or aluminum escutcheon, 3 $\frac{1}{8}$ x3 $\frac{7}{16}$ inches, one cast brass, bronze or aluminum escutcheon, 3 $\frac{1}{8}$ x4 $\frac{3}{16}$ inches and one cast brass, bronze or aluminum knob with turn button for inside and one with pin tumbler cylinder for outside of door. Diameter of knobs, 2 $\frac{1}{8}$ inches.

Specify whether for 1 $\frac{3}{8}$ or 1 $\frac{3}{4}$ -inch door. Available with reverse bevel for door opening out, if so ordered.

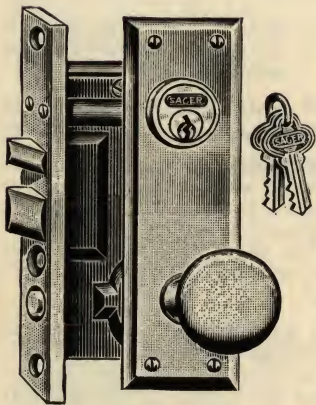
Packed 1 set in a box with screws.

Weight per set, 3 $\frac{7}{8}$ pounds.

No. AW1781x2/16 Sager Atwood Design
Office Door Lock Sets

Reversible

Wrought Brass or Bronze



No. 781 Lock: Japanned iron case, 5 $\frac{7}{8}$ x3 $\frac{3}{8}$ x $\frac{3}{4}$ inches; cast brass or bronze flat front, 7 $\frac{3}{4}$ x1 $\frac{1}{8}$ inches; backset, 2 $\frac{1}{2}$ inches; bronze latch bolt, $\frac{1}{16}$ -inch throw; bronze auxiliary bolt, $\frac{3}{8}$ -inch throw; strike, center of opening to end of lip, 1 $\frac{1}{2}$ inches; bronze hub for $\frac{5}{16}$ -inch swivel spindle; one No. 1901 cast brass or bronze cylinder. Two No. 1888, Class 88 keys; can be master keyed.

OPERATION: Latch bolt by knob from either side except when outside knob is locked by stop in face. By key from outside at all times. When door is closed, auxiliary bolt automatically deadlocks the latch making it proof against end pressure.

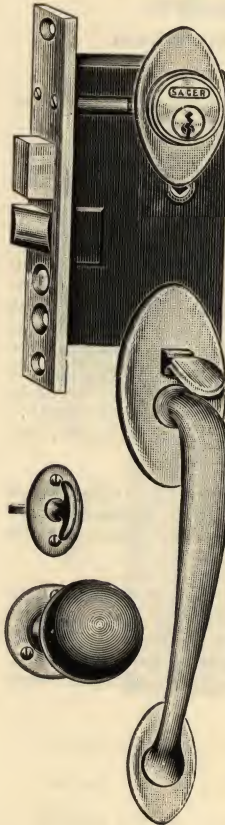
TRIM: Two No. AW16 wrought brass or bronze escutcheons, 8x2 $\frac{1}{2}$ inches; two No. 2112 $\frac{1}{4}$ C wrought brass or bronze one-piece knobs, 2 $\frac{1}{4}$ inches in diameter.

Specify door thickness.

Packed 12 in a carton.

Weight per dozen, 58 pounds.

No. RL91630xAF3 Sager Raleigh Design
Entrance Door Sectional Handle Lock Sets
Cast Brass or Bronze



No. 630 Lock: Japanned iron case, 5 $\frac{7}{8}$ x3 $\frac{1}{2}$ x $\frac{3}{4}$ inches; cast brass or bronze flat front, 7 $\frac{3}{4}$ x1 inches; backset, 2 $\frac{1}{2}$ inches; bronze latch bolt, $\frac{1}{16}$ -inch throw; bronze dead bolt, $\frac{1}{2}$ -inch throw; strike, center of opening to end of lip, 1 $\frac{3}{8}$ inches; bronze hub for $\frac{5}{16}$ -inch knob spindle; bronze hub for $\frac{3}{16}$ -inch turnknob spindle; one No. 1901 cast brass or bronze cylinder, reversible; two No. 1888, Class 88 keys; can be master keyed.

OPERATION: Latch bolt by thumb-piece from outside and knob from inside except when locked by stop in face. Dead bolt by key from outside and turnknob from inside at all times.

TRIM: For outside of door: one No. RL91 cast brass or bronze handle, 15 $\frac{1}{2}$ x2 $\frac{1}{8}$ inches overall; 4x2 $\frac{1}{8}$ -inch thumbpiece plate; 2 $\frac{3}{8}$ x1 $\frac{3}{8}$ -inch lower plate; No. 3910A grip, center to center, 7 $\frac{1}{2}$ inches; 2 $\frac{1}{2}$ -inch projection; one No. RL1991 cast brass or bronze cylinder plate 3 $\frac{1}{8}$ x1 $\frac{1}{8}$ inches. For inside of door: one No. YC102 wrought brass or bronze, one-piece knob, 2 inches in diameter with No. 2001 wrought brass or bronze rose, 1 $\frac{3}{4}$ inches in diameter; one No. 2403B wrought brass or bronze turnknob, 1 $\frac{3}{4}$ x1 $\frac{1}{16}$ inches.

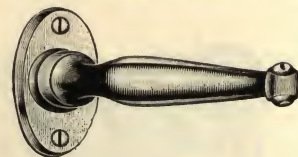
Specify thickness of door.

Packed 1 in a box.

Weight, 5 $\frac{1}{2}$ pounds.

No. 2327Cx2019 Sager Lever Handles and Roses

Cast Brass or Bronze



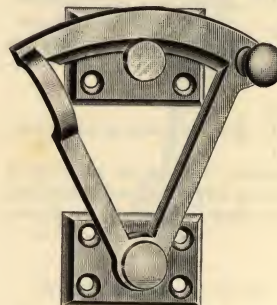
No. 2327, lever handle has Type C threaded spindle mounting. Length, 3 $\frac{3}{8}$ inches; projection, 1 $\frac{3}{4}$ inches.

Used with No. 2019, rose. Size, 2 $\frac{3}{16}$ x1 $\frac{1}{16}$ inches.

Packed 1 in a box.

Approximate weight, 3 $\frac{3}{4}$ pounds.

No. 364 $\frac{1}{2}$ Corbin Quadrants
For Dutch Doors



Used to lock upper and lower leaves of door together. Cannot be used when shelf is attached to lower leaf of door.

Made of cast brass or bronze.

Overall height, 4 $\frac{3}{4}$ inches. Plate, 1 $\frac{1}{2}$ x2 $\frac{3}{8}$ inches. Quadrant, 4x4 $\frac{3}{8}$ inches.

Right hand illustrated.

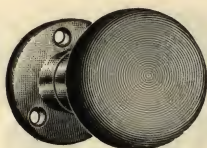
Not reversible. Specify hand.

Packed 6 in a box with screws.

Weight per dozen, 12 pounds.

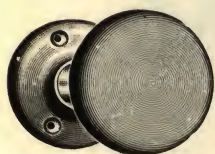
No. 364 $\frac{1}{2}$per dozen

No. 1519 1/2 Corbin Door Knobs
Cast Brass or Bronze



Knob diameter, 2 1/4 inches; projection, 2 1/8 inches.
Furnished with Type PY shank and No. 56 spindle. Can be furnished with Type PH or TS shanks if specified.
With No. 1118 rose, diameter, 2 inches.
Specify door thickness.
Packed 2 pairs in a box with screws.
Weight per dozen pairs, 14 3/4 pounds.

No. 1419 1/2 Corbin Door Knobs



Made of wrought bronze, polished.
Size 2 1/4 inches. PW shank and No. 56 type spindle, 5/16 inch. Projection, 2 3/16 inches. No. 1109 1/2 wrought bronze rose, 2 inches in diameter.
Packed 2 pairs in a box with screws. Weight per dozen pairs, 9 1/4 pounds.
No. A1419 1/2, Bright Brass.
No. EA1419 1/2, Dull Brass.
No. E1419 1/2, Nickel Plated.

No. 14 Corbin Knob Screws



For Colonial shank or PY screwless knobs.
Made of steel, plated.
Weight per gross, 7 ounces.
No. EA14, Dull Brass.

No. YC102 Sager Door Knobs



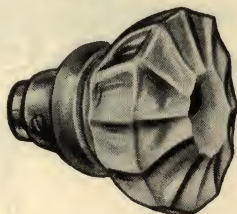
Wrought bronze top, cast bronze shank. Size, 2 inches. Projection, 2 3/8 inches. Has 5/16-inch Model C spindle mounting.

Furnished with No. 2001B wrought bronze rose.

Packed 1 pair in a box with spindle and screws.

No. YC102xA30, Polished Brass.....per dozen pairs \$36.00
No. YC102xD30, Dull Brass.....per dozen pairs 36.00
No. YC102xD20, Dull Bronze.....per dozen pairs 36.00
No. YC102xA110, Polished Chromium.....per dozen pairs 48.00
No. YC102xD110, Dull Chromium.....per dozen pairs 48.00

No. 361 Tegco Crystal Glass Door Knobs
2-Inch Diameter



Wrought brass or bronze shanks. Brass, bronze, nickel or chromium finish, polished or satin, as specified.
Packed 1/2 dozen pairs in individual box complete with spindles and brass set-screws.
Weight per box, 4 5/8 pounds.
No. 361.....per dozen

No. 45 1/2 Corbin Knob Spindles
Wrought Steel



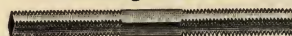
For PW or PY knobs.
Size, 5/16 inch. Standard length, 3 3/8 inches.
Packed 2 dozen in a box.
Weight per dozen, 1 pound.
No. 45 1/2.....per dozen

No. 36 Corbin Knob Spindles
Wrought Steel



For standard shank knobs. Size, 5/16 inch.
Weight, per dozen, 1 1/8 pounds.
Price, No. 36.....per dozen

No. 0056 Corbin Knob Spindles
Wrought Steel



For PW or PY knobs threaded both ends.
Size, 5/16 inch. Standard length, 4 1/2 inches.
Packed 2 dozen in a box.
Weight per dozen, 1 pound.
No. 0056.....per dozen

No. 0036 3/4 Corbin Swivel Knob Spindles
Wrought Steel



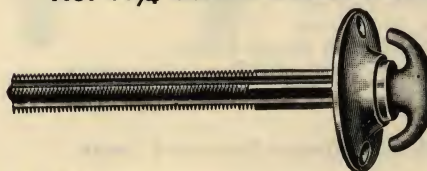
For PW or PY knobs threaded both ends.
Size, 5/16 inch. Swivel center, 5/16 inch. Length, 5 inches.
Packed 2 dozen in a box. Weight per dozen, 1 1/4 pounds.
No. 0036 3/4.....per dozen

No. 034 Corbin Swivel Knob Spindles
Wrought Steel



For PW or PY knobs threaded both ends.
Size, 5/16 inch. Swivel center, 3/8 x 3/16 inch. Length, 5 inches.
Packed 2 dozen in a box. Weight per dozen, 1 1/2 pounds.
No. 034.....per dozen

No. 44 1/4 Corbin Closet Knob Spindles



Safety closet spindle for PW or PY knob.
Size 5/16 inch. Wrought steel, plated.
Weight 1 3/4 lb. per doz.
No. 44 1/4.....per dozen

No. 2561 Corbin Escutcheons
Wrought Brass or Bronze



With regular keyhole.
Size, 1 3/4 x 1 1/16 inches.
Packed 24 in a box with screws.
Weight per dozen, 3 1/2 ounces.
No. 2561.....per dozen

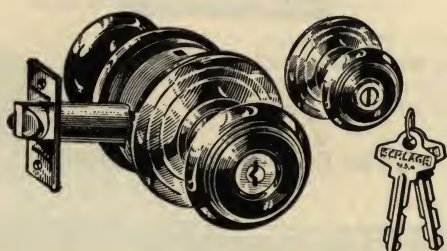
No. 2403B Sager Turnknobs



Made of wrought brass or bronze; 5/16-inch spindle on diamond.
Size, 1 3/4 x 1 1/16 inches.
Packed 2 dozen to a box.
Weight per box of 2 dozen, 2 1/2 pounds.
No. 2403B, Specify Finish.....per dozen

Schlage Novo Design Lock Sets

Novo Design Exterior Door Locks



OPERATION: May be opened with key from outside when locked by push button in inner knob.

Inside knob always free for immediate exit.

Special feature permits button to be fixed in locked position by pushing in and rotating to the right. Double security is provided by safety latch bolt which automatically deadlocks when door is closed.

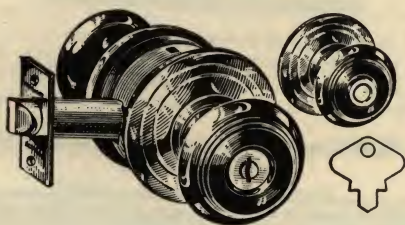
Furnished with 2 nickel silver keys.

No. A52WDxUS10, Dull Bronze Finish; Shipping Weight, 1 $\frac{3}{4}$ Pounds.....each

*No. A52PDxUS10, Dull Bronze Finish; Shipping Weight, 2 Pounds.....each

*Pin-tumbler key, deadlocking latch bolt.

No. A40S Novo Design Bathroom or Bedroom Locks



Privacy assured by simple pushing button in inner knob. Unlocks automatically by instinctive turn of knob.

In case of emergency, door may be opened quickly and easily from the outside by using emergency key provided, or by using screwdriver, nail file, etc. Automatic latch feature prevents accidental locking out.

Shipping weight, 1 $\frac{1}{16}$ pounds.

No. A40SxUS10xUS26, Dull Bronze Finish Outside; Polished Chromium Inside.....each

No. A40SxUS10, Dull Bronze Finish.....each

No. A30D Novo Design Basement Locks



Also for sun deck and exit doors.

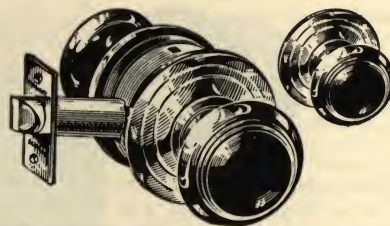
Push button in inner knob locks outside knob. Inner knob always free for immediate exit. Button automatically releases when door is closed, thereby preventing accidental locking out.

Safety latch provides double security when door is closed.

Shipping weight, 1 $\frac{1}{16}$ pounds.

No. A30DxUS10, Dull Bronze Finish.....each

No. A10S Novo Design Passage and Closet Locks



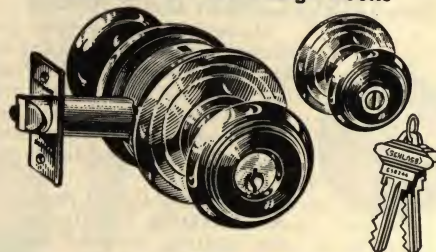
For passage and closet doors and other doors not requiring key operation.

Both knobs operate latch at all times.

Shipping weight, 1 $\frac{1}{2}$ pounds.

No. A10SxUS10, Dull Bronze Finish.....each

No. E51PD Novo Design Locks



Pin-tumbler cylinders. Reversible for right or left-hand doors.

Furnished with 2 nickel silver keys.

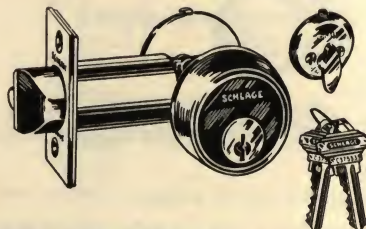
OPERATION: Latch bolt by key from outside, by knob from inside.

Latch bolt deadlocks automatically when door is closed, and prevents forcing back latch.

Shipping weight, 4 $\frac{3}{8}$ pounds.

No. E51PD—Ply x Novo x US3 x US10, Polished Brass Finish Outside; Dull Bronze Inside.....each

No. B250PD Locks



Pin-tumbler. Specify right or left-hand.

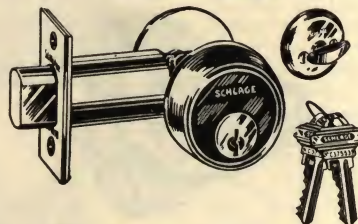
Furnished with 2 nickel silver keys.

OPERATION: Latch bolt from outside by key. From inside by thumbturn. Latch bolt may be held retracted by hold-back catch. Latch bolt deadlocks automatically when door is closed.

Shipping weight, 1 $\frac{1}{4}$ pounds.

No. B250PDxUS10, Dull Bronze Finish.....each

No. B260P Locks



Pin-tumbler. Has dead bolt. Furnished with 2 nickel silver keys.

OPERATION: Dead bolt from outside by key. From inside by thumbturn.

Shipping weight, 1 $\frac{1}{4}$ pounds.

No. B260PxUS10, Dull Bronze Finish.....each

No. 12101HTx4HT McKinney Entrance Door Lock Sets Forged Iron



No. 12101HT



No. 4HT Inside Trim

For doors $1\frac{3}{4}$ to 3 inches thick.

TYPE 100 LOCK: Backset, $2\frac{1}{2}$ inches. Adjustable cylinder. Can be master keyed or keyed alike.

OPERATION: Latch bolt by latch from outside and knob from inside except when outside latch is locked by stop in face. Dead bolt by key from outside and turn piece from inside at all times. Continuous turn of key from outside retracts both dead bolt and latch bolt.

TRIM: For outside of door: No. 12501HT forged iron handle set, $10\frac{1}{2}$ inches long, $2\frac{3}{4}$ inches wide with $1\frac{1}{4} \times 12$ and $\frac{1}{2} \times 12$ square stud screws and forged iron cylinder rosette, $3\frac{3}{4}$ inches long, $2\frac{3}{4}$ inches wide with $\frac{1}{2} \times 9$ square stud screws. For inside of door: No. 4HT set consists of No. 12534 hammered forged iron knob, 2-inch diameter, 2-inch projection; No. 12412 forged iron rose, 2 inches long, $1\frac{1}{2}$ inches wide with $\frac{1}{2} \times 9$ screws; No. 12524HT forged iron turnpiece, $1\frac{7}{8}$ inches long, $1\frac{3}{4}$ inches wide with $\frac{1}{2} \times 9$ square stud screws; No. 12613 forged iron half spindle, $2\frac{1}{2}$ inches long, $\frac{5}{16}$ -inch size.

Packed 1 set in a box with screws.

Weight per set, 5 pounds.

No. DB12101HTx4HT, Dead Black Iron.....per set

No. 12642HT McKinney Forged Iron Door Knockers



Length, $7\frac{3}{4}$ inches; extreme width, $3\frac{3}{8}$ inches; projection, $1\frac{1}{4}$ inches.

Size of square stud screws, $1\frac{1}{4} \times 12$.

Packed 1 in a box. Weight, $1\frac{1}{8}$ pounds.

No. DB12642HT, Dead Black Iron.....each

McKinney Forged Iron Hinge Straps

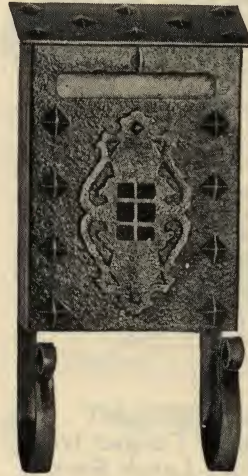


Each hinge strap is individually wrapped in heavy paper with screws.

No. DB12509HT DB12510HT DB12512HT DB12304HT
Dead Black Iron

.....per pr.	.....	.....	.....	.....
Extreme Length.in.	$22\frac{1}{4}$	$18\frac{3}{4}$	$28\frac{1}{4}$	14
Width Strap at				
Hanging End.in.	$1\frac{3}{4}$	$1\frac{3}{4}$	3	$1\frac{3}{8}$
Size Sq. Stud Screws	$\frac{7}{8} \times 12$	$\frac{7}{8} \times 12$	$\frac{7}{8} \times 12$	$\frac{3}{4} \times 9$
Weight per Strap.lb.	$1\frac{1}{8}$	1	$2\frac{1}{2}$	$\frac{1}{2}$

No. 695 McKinney Forged Iron Mail Boxes



Hammered texture and sherardized to resist rusting.

Overall length, 15 inches; box length, 10 inches; box width, $6\frac{1}{2}$ inches.

Packed 1 in a carton.

Shipping weight per carton, 5 pounds.

No. DB695, Dead Black Iron.....each

No. K695, Relieved Iron.....each

No. 696 McKinney Solid Brass Mail Boxes



Smooth surface, not hammered texture.

Overall length, 15 inches; box length, 10 inches; box width, $6\frac{1}{2}$ inches.

Packed 3 in a carton.

Shipping weight per carton, 18 pounds.

No. 696BP, Polished Brass.....each

No. 696EA, English Antique Brass.....each

No. 12534 McKinney Forged Iron Door Knobs With Rose



For doors $1\frac{3}{8}$ to $1\frac{3}{4}$ inches thick.

Made of hammered forged iron.

Diameter, 2 inches; projection, 2 inches. Packed with number 12615 straight $\frac{3}{16} \times 3\frac{1}{2}$ inches; spindle when ordered in pairs and with no. 12410 rose.

Packed 1 pair in a box.

No. DB12534, Dead Black Iron.....per pair

No. 12503HT McKinney Forged Iron Mortise Latch Sets

For interior doors $1\frac{3}{8}$ to 2 inches thick.

Two handles: length, $9\frac{1}{4}$ inches; width, $2\frac{1}{4}$ inches; size square stud screws, $\frac{5}{8} \times 12$. Mortise latch: depth mortise, $3\frac{1}{4}$ inches; length front, 3 inches; width front, $\frac{3}{4}$ inch; maximum backset, $2\frac{1}{2}$ inches. Size of flat head screws front and strike, $\frac{3}{4} \times 7$ and 1×9 .

Packed 1 set in a box with screws.

Weight per set, $2\frac{1}{2}$ pounds.

No. DB12503HT, Dead

Black Iron.....per set

No. 12503 $\frac{1}{2}$ HT McKinney Forged Iron Mortise Latch Sets

For interior doors $1\frac{3}{8}$ to 2 inches thick.

Handle: length, $9\frac{1}{4}$ inches; width, $2\frac{1}{4}$ inches; size square stud screws, $\frac{5}{8} \times 12$. Mortise latch: depth mortise, $3\frac{1}{4}$ inches; length front, 3 inches; width front, $\frac{3}{4}$ inch; maximum backset, $2\frac{1}{2}$ inches. Size of flat head screws front and strike, $\frac{3}{4} \times 7$ and 1×9 .

Packed 1 set in a box with screws.

Weight per set, 2 pounds.

No. DB12503 $\frac{1}{2}$ HT, Dead

Black Iron.....per set

McKinney Forged Iron Rim Latch Sets Light Weight



No. 12502 $\frac{1}{4}$ HT

For interior doors $\frac{7}{8}$ to $1\frac{3}{8}$ inches thick.

Packed 1 set in a box with screws.

No. DB12502 $\frac{1}{4}$ HT *DB12502 $\frac{1}{8}$ HT

Dead Black Iron.....per set

Handle: Length.....inches

Width.....inches

Size Sq. Stud Screws

Rim Latch: Length.....inches

Width.....inches

Size Sq. Stud

Screws.....

Size of Flat Head Screws

Front and Strike.....

Weight per Set.....pounds

*Reverse bevel rim latch set.

McKinney Forged Iron Rim Latch Sets Regular Weight



For interior doors $1\frac{3}{8}$ to 2 inches thick.

Packed 1 set in a box with screws.

*Reverse bevel rim latch set.

No.	DB12502 $\frac{3}{4}$ HT	*DB12502 $\frac{7}{8}$ HT
Dead Black Iron.....per set	.....	.....
Handle: Length.....inches	$9\frac{1}{4}$	$9\frac{1}{4}$
Width.....inches	$2\frac{1}{4}$	$2\frac{1}{4}$
Size Sq. Stud Screws	$\frac{5}{8} \times 12$	$\frac{5}{8} \times 12$
Rim Latch: Length.....inches	$4\frac{3}{4}$	$4\frac{1}{2}$
Width.....inches	$2\frac{1}{4}$	$2\frac{1}{4}$
Size Sq. Stud	.....	.....
Screws.....	$\frac{3}{4} \times 9$	$\frac{3}{4} \times 9$
Size of Flat Head Screws	.....	.....
Front and Strike.....	$\frac{7}{8} \times 8$	1×9
Weight per Set.....pounds	1	1

McKinney Forged Iron Strap Hinges



No. 12514 $\frac{1}{2}$ HT. Can be applied either full surface or half surface.

No. 12518HT. Designed for lipped doors with $\frac{3}{8}$ -inch offset.

	No. DB 12514 $\frac{1}{2}$ HT				No. DB12518HT	
Lgth Strap.....in.	* $6\frac{1}{2}$	* $8\frac{3}{4}$	$\dagger 9$	$\dagger 13\frac{1}{4}$	* $6\frac{1}{2}$	* $8\frac{3}{4}$
Dead Black Iron...per pr.	.....	.....	.....	.....	.....	.....
Width Strap at Joint...in.	$\frac{3}{4}$	$\frac{3}{4}$	$1\frac{3}{8}$	$1\frac{3}{8}$	$\frac{3}{4}$	$\frac{3}{4}$
Length Pad.....in.	$1\frac{3}{4}$	$1\frac{3}{4}$	$2\frac{1}{2}$	3	$1\frac{3}{4}$	$1\frac{3}{4}$
Width Pad or T-Leaf...in.	$1\frac{3}{16}$	$1\frac{3}{16}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$
Size of Sq. Stud Screws...	$\frac{3}{4} \times 7$	$\frac{3}{4} \times 7$	$\frac{3}{4} \times 9$	$\frac{3}{4} \times 9$	$\frac{3}{4} \times 7$	$\frac{3}{4} \times 7$
Pairs per Box with Screws..	12	12	1	1	12	12
Weight per Box.....lb.	$3\frac{1}{2}$	4	$\dagger 3\frac{3}{4}$	$\dagger 11\frac{1}{4}$	$3\frac{1}{2}$	4

*Designed for use on cupboards and cabinets. \dagger Designed for light interior doors. \dagger Weight is per hinge.

No. 12631 McKinney Forged Iron Surface Bolts



Strikes

Length of plate, $4\frac{3}{8}$ inches; extreme width, $2\frac{1}{4}$ inches.

Size of square stud screws, $1\frac{1}{4} \times 12$.

When ordering, specify length of bolt desired.

Packed 2 bolts in a box complete with rim, mortise and surface strikes.

Length Bolt.....inches

No. DB12631, Dead Black

Iron.....each

Weight per Box.....pounds

McKinney Forged Iron H Hinges



All hinges are reversible.

Furnished with stud screws.

*For use when doors are flush with trim.

†Offset type hinge for $\frac{3}{8}$ -inch lipped doors.

No.	*Flush		†Offset
	DB12715	DB12720	DB12724
Dead Black Iron... per pair	.....	.....	.....
Extreme Length.....inches	$4\frac{1}{2}$	3	3
Extreme Width.....inches	$1\frac{3}{4}$	$1\frac{7}{16}$	$1\frac{7}{16}$
Width of Plate.....inches	$\frac{7}{8}$	$\frac{1}{2}$	$\frac{1}{2}$
Length of Joint.....inches	$1\frac{7}{8}$	$1\frac{1}{2}$	$1\frac{1}{2}$
Size of Square Stud Screws..	$\frac{3}{4} \times 9$	$\frac{3}{4} \times 7$	$\frac{3}{4} \times 7$
No. of Pairs in a Box.....	1	12	12
Weight per Pair.....pounds	$\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{1}{2}$



McKinney Forged Iron H and L Hinges

All hinges are reversible when ordered in pairs.

Furnished with stud screws.

*For use when doors are flush with trim.

†Offset type hinge for $\frac{3}{8}$ -inch lipped doors.

No.	*Flush		†Offset
	DB12717	DB12721	DB12725
Dead Black Iron... per pair	.....	.....	.....
Extreme Length H-Plate..in.	$4\frac{1}{2}$	3	3
Extreme Width L-Plate..in.	$4\frac{1}{8}$	$2\frac{7}{8}$	$2\frac{7}{8}$
Width Plate.....inches	$\frac{7}{8}$	$\frac{1}{2}$	$\frac{1}{2}$
Length of Joint.....inches	$1\frac{7}{8}$	$1\frac{1}{2}$	$1\frac{1}{2}$
Size Square Stud Screws...	$\frac{3}{4} \times 9$	$\frac{3}{4} \times 7$	$\frac{3}{4} \times 7$
No. of Pairs in a Box.....	1	12	12
Weight per Box.....pounds	$\frac{1}{2}$	$2\frac{3}{4}$	$2\frac{3}{4}$

McKinney Forged Iron Cabinet Latches



Furnished with iron knob and surface strikes.

*Offset type latch for $\frac{3}{8}$ -inch lipped doors.

No.	DB12737	DB12738	*DB12747
Dead Black Iron... per dozen	.....	.....	.....
Length of Plate Vertical..in.	$2\frac{1}{2}$	3	$2\frac{1}{2}$
Length of Bar.....inches	$2\frac{3}{8}$	$2\frac{5}{8}$	$2\frac{3}{8}$
Square Stud Screws.....	$\frac{3}{4} \times 7$	$\frac{3}{4} \times 7$	$\frac{3}{4} \times 7$
No. in a Box.....	12	6	12
Weight per Box.....pounds	2	$1\frac{1}{4}$	2

McKinney Forged Iron Cabinet Latches



Furnished with iron knob and rim and surface strikes.

No.	DB12730	DB12731	*DB12741
Dead Black Iron... per dozen	.....	.....	.....
Length of Plate Horizontal.....inches	$2\frac{7}{8}$	2	2
Width of Plate.....inches	$2\frac{1}{4}$	$1\frac{1}{8}$	$1\frac{1}{8}$
Length of Bar.....inches	$3\frac{1}{2}$	$2\frac{5}{8}$	$2\frac{5}{8}$
Square Stud Screws.....	$\frac{1}{2} \times 9$	$\frac{1}{2} \times 7$	$\frac{1}{2} \times 7$
No. in a Box.....inches	6	12	12
Weight per Box.....inches	2	$1\frac{3}{4}$	$1\frac{3}{4}$

*Offset type latch for $\frac{3}{8}$ -inch lipped doors with surface strikes only.

McKinney Forged Iron Cabinet Knobs



No. 12740. Diameter of knob, $1\frac{3}{16}$ inches; projection, 1 inch. Size of through bolt, $1\frac{1}{8} \times \frac{3}{16}$ inches. Packed 12 in a box with bolts; wt., 2 lb.

No. DB12740, Dead Black Iron... per dozen

No. 12740 $\frac{1}{2}$. Diameter of knob, $\frac{7}{8}$ inch; projection, $\frac{7}{8}$ inch; size through bolt, $1\frac{1}{8} \times \frac{3}{16}$ inches.

Packed 12 in a box with bolts; weight, 1 pound.

No. DB12740 $\frac{1}{2}$, Dead Black Iron..... per dozen

No. 12336 McKinney Forged Iron Drawer Pulls



Length, $5\frac{1}{8}$ inches; width, $1\frac{3}{4}$ inches; projection, $\frac{3}{4}$ inch. Size of square stud screws, $\frac{3}{4} \times 9$.

Packed 6 in a box with screws.

Weight per box, 1 pound.

No. DB12336, Dead Black Iron..... per dozen



No. 12744 McKinney Forged Iron Cabinet Door Pulls

Sherardized to resist rust.

Overall length, 5 inches; width, $\frac{7}{8}$ inch.

Packed 1 pull in an envelope with screws; 12 pulls in a box; 10 dozen in a carton.

Weight per carton, 10 pounds.

No. DB12744, Dead Black Iron... per dozen

No. 12736 McKinney Forged Iron Drawer Pulls



Length, $4\frac{7}{8}$ inches; width, $1\frac{9}{16}$ inches; projection, $\frac{3}{4}$ inch. Size of square stud screws $\frac{3}{4} \times 7$.

Packed 12 in a box with screws.

Weight per box, $2\frac{1}{2}$ pounds.

No. DB12736, Dead Black Iron..... per dozen

No. 12902 McKinney Forged Iron Casement Fasteners



Rim Strike Mortise Strike Surface Strike

Size plate without strike, $1\frac{1}{2} \times 2$ inches; length of lever handle from center of rivets to end, $3\frac{3}{4}$ inches; extreme projection of handle, $1\frac{3}{4}$ inches; size of strikes: rim, $1\frac{5}{8} \times 2\frac{1}{2}$ inches; mortise, $\frac{5}{8} \times 3$ inches; surface, $1\frac{1}{2} \times 2$ inches. Square stud screws, $\frac{3}{4} \times 9$.

Packed 6 in a box with rim, mortise and surface strikes.

Weight per box, 3 pounds.

No. DB12902, Dead Black Iron..... per dozen

No. 12524HT McKinney Forged Iron Turn Pieces



Length, $1\frac{7}{8}$ inches; width, $1\frac{3}{4}$ inches.

Furnished with $\frac{3}{16}$ -inch diamond spindle.

Size of square stud screws, $\frac{1}{2} \times 9$.

Packed 6 in a box with screws.

Weight per box, $\frac{1}{2}$ pound.

No. DB12524HT, Dead Black Iron.ea.

No. 12326 McKinney Forged Iron Key Plates



Adaptable for use with WK and AA designs.

Cut for standard bit keys.

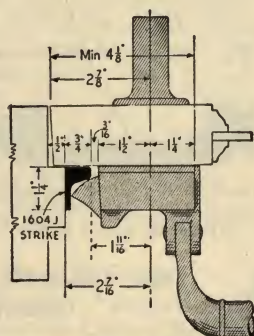
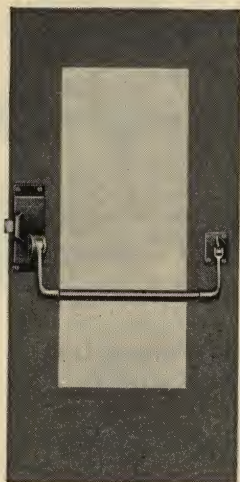
Length, $1\frac{3}{4}$ inches; width, 1 inch; size of square stud screws, $\frac{1}{2} \times 9$.

Packed 12 in a box with screws.

Weight per box, $\frac{1}{2}$ pound.

No. BD12326, Dead Black Iron..per dozen

**Type A Von Duprin Malleable Iron
Exit Devices
Rim Type for Single Doors**



Single Door Jam Detail



No. 96A
Key Locks
Thumb Latch



**No. NL96A
Key Retracts
Latch Bolt**



No. 98A
Exit Only



No. 98A-DT
Pull, When
Dogged

Available in size knocked down for doors up to 3 feet 6 inches wide.

All cast parts are of malleable iron with black finish. Outside trim of forged bronze.

Dogging feature, which locks cross bar down and holds latch bolt in a retracted position, furnished in center case.

Not reversible. **Specify** hand, LHRB (left hand reverse bevel) or RHRB (right hand reverse bevel). **Outside**

No. 96A x US10 , Dull Bronze Finish	per set	Only
No. NL96A x US10 , Dull Bronze Finish	per set	....
No. 98A , Black Finish	per set	....
No. 98A-DT x US10 , Dull Bronze Finish	per set	....

Type A Von Duprin Bronze Exit Devices

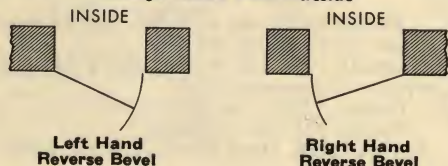
Similar in operation to the malleable iron exit devices shown on these pages.

Furnished in size knocked down for doors up to 3 feet 6 inches by 7 feet.

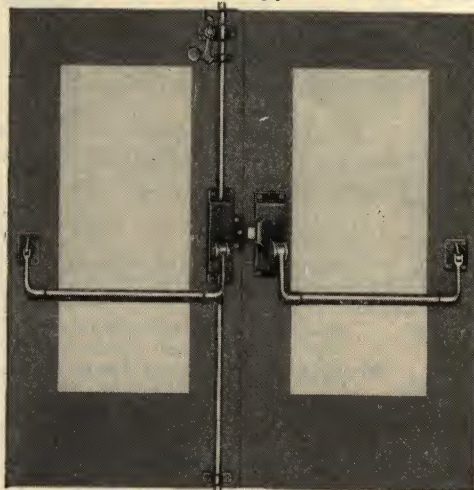
Specify, hand of door if for single doors, and hand of active door if for double doors.

Hanging of Doors

Always Taken from Outside



**Type 27U Von Duprin Malleable Iron
Exit Devices
Vertical Rod and Rim Type for Double Doors**

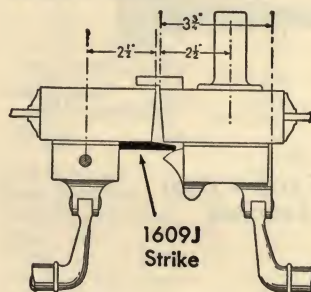


**Type 27U
Inactive Door Device**

Type A Active Door Device

Use any Type A malleable device for active door. Not reversible. **Specify** hand of active door.

Use No. 1243 Von Duprin co-ordinator when doors are equipped with door closers.



No. 96A
Key Locks
Thumb
Latch

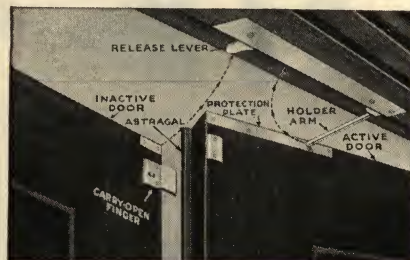
Available in size knocked down for doors up to 3 feet 6 inches by 7 feet.

For double doors with overlapping astragals. May be used on doors not less than 1 $\frac{3}{8}$ -inches thick, with stiles not less than 3 $\frac{3}{4}$ inches wide.

All cast parts are of malleable iron with black finish. Dull bronze finish outside only.

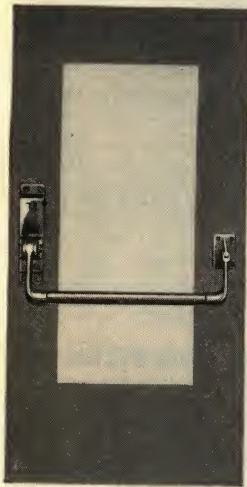
No. 27Ux96AxUS10, Comb.; Dull Bronze Finish Outside only.....	each	....
No. 27UxNL96AxUS10, Comb.; Dull Bronze Finish Outside only.....	each	....
No. 27Ux98, Comb.....	each	....
No. 27Ux98A-DTtUS10, Comb.; Dull Bronze Finish Outside only.....	each	....

No. 1243 Von Duprin Co-Ordinators



Active door is held open by holder arm until inactive door engages the release lever. This causes holder arm to travel into the case of the device and permits the active door to close only after the inactive door has first closed.

**Type U Von Duprin Mortise Lock
Malleable Iron Exit Devices
For Single Doors**



No. 24U
Key Locks
Thumb Latch



No. NL24U
Key Retracts
Latch Bolt



No. 2244J
Strike

Available in size knocked down for doors up to 3 feet 6 inches by 7 feet.

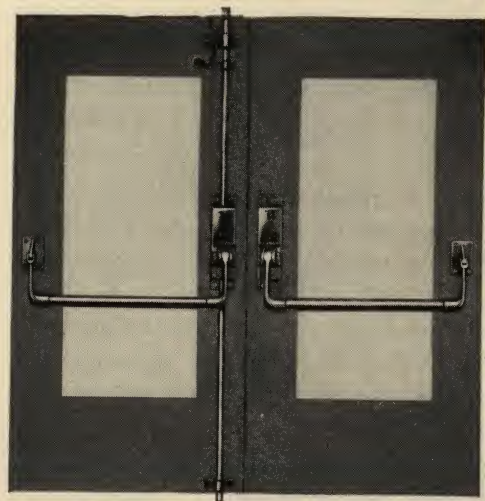
Minimum door thickness, 1 3/4 inches; minimum width of stile, 4 1/4 inches.

All cast parts malleable iron with dead black finish. Locks and outside trim are forged bronze.

Not reversible. **Specify** hand, LHRB (left hand reverse bevel) or RHRB (right hand reverse bevel).

No. 24UxUS10, Dull Bronze Finisheach
No. NL24UxUS10, Dull Bronze Finish.....each

**Von Duprin Mortise Lock Malleable Iron
Combination Exit Devices
Vertical Rod Type for Double Doors**



No. 24U or
No. NL24U
Key Locks
Thumb Latch



No. 2245J
Strike

No. 27U Available in size knocked down for doors up to 3 feet 6 inches by 7 feet.

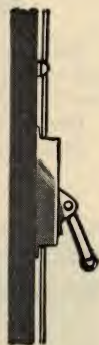
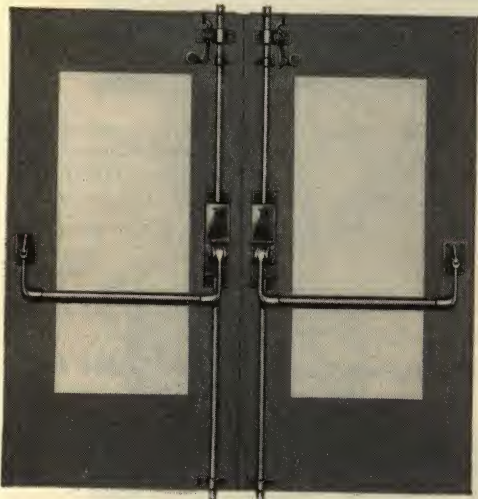
Minimum door thickness, 1 3/4 inches; minimum width of stile, 4 1/4 inches.

All cast parts malleable iron with dead black finish. Locks and outside trim are forged bronze.

Not reversible. **Specify** hand, LHRB (left hand reverse bevel) or RHRB (right hand reverse bevel).

No. 27Ux24UxUS10, Comb.; Dull Bronze Finish ..each
No. 27UxNL24UxUS10, Comb.; Dull Bronze
Finish Outside only.....each

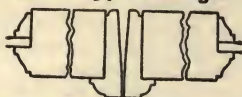
**Type 27U Von Duprin Malleable Iron
Combination Exit Devices
Vertical Rod Type for Double Doors**



Available in size knocked down for doors up to 3 feet 6 inches by 7 feet.

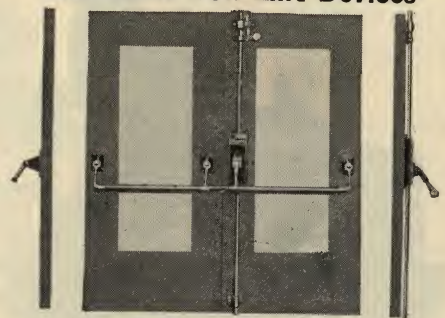
All cast parts of malleable iron with dead black finish.
No. 27Ux27U, Combination.....each
No. 27U, for Single Exit Door Use One Set.....each

Split Type Astragal



A split type astragal must be used with above exit devices.

**Type 72U Von Duprin Double Arm
Malleable Iron Exit Devices**



Inactive Door Active Door

For double emergency exit doors only. For doors not less than 1 1/4 inches thick, not less than 1 foot 6 inches wide, with stiles not less than 3 inches.

Available in size knocked down for doors up to 3 feet 6 inches by 7 feet. Top rod extensions furnished for doors over 7 feet high.

An overlapping astragal must be used on outside of active door.

No. 72U.....each

For information on

Von Duprin

Drop-Forged Bronze Exit Devices,
made up to size,
a catalog folder will be supplied
upon request.

Master Keyed and Keyed Alike Locks

The use of master keys to control locks in series has now become a generally accepted practice. By means of such a system, one authorized person can use one key to open any lock in the system. Other individuals can open only those locks which their key will fit.

While **Lever Tumbler Locks** may be master keyed, **Pin Tumbler Locks** are better adapted as they offer the highest security and the greatest convenience and flexibility. It is possible with pin tumbler locks to include under one master key various types of locks, such as builders' locks, cabinet locks and padlocks, thus providing a convenience impossible with other types.

A series of locks may be arranged, as to their keys, in any one of different ways as follows:

- 1. **All different**, each key opening only one lock (regular from stock).
- 2. **All alike**, any one of the keys opening all of the locks (on special order).
- 3. **Master keyed**, with keys all different (as in 1) but with a master key also which passes all of the locks (as in 2). These are supplied on special order.

Submit your master key problem to us.

Yale Key-Biting Machines

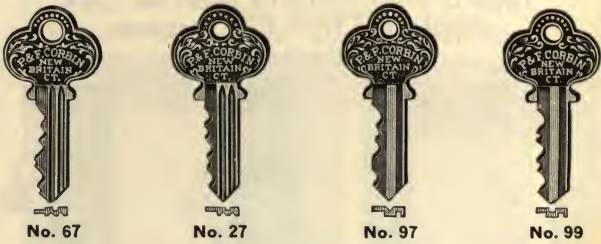


This machine will cut duplicate keys for pin-tumbler cylinder locks, and for flat lever-tumbler or warded locks, but not barrel keys or keys of the S53, S55 or S145 types. Machine is attached to ash cabinet with 2 drawers for holding an outfit of locksmith's tools for repairing locks, and an assortment of key blanks. Cabinet should be attached by means of screws to a counter or bench flush with front edge.

Size machine, 6x10 inches; height, 7 inches, exclusive of cabinet. Shipped ready for use and furnished with 2 rotary files, 1 saw-tooth rotary saw, necessary test pieces and wires for vises. When ordered with cabinet, 100 Yale No. 8 Key Blanks are furnished.

- No. M-1005, without Cabinet or Key Blanks..... each
- No. M-1007, with 2-Drawer Cabinet and 100 Yale No. 8 Key Blanks..... each

Corbin Nickel Silver Key Blanks

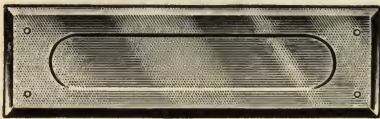


For five pin-tumbler cylinders: Nos. 250, 250½, 251, 251½, 253, and 253½.
Packed 3 dozen in a box.

No.....	67	27	97	99
Per Gross.....				

We carry in stock all makes of key blanks.

Champion Wrought Mail Box Plates



Has large opening to receive magazines and small packages as well as letters. Inside plate to cover opening in door is

included. Opening 1½x7½ in.; outside plate, 3x10 in.
Furnished with ¾x6 oval head screws.
Packed 6 in a box with screws to match.
Weight per box, 6 pounds.

	Steel		Bronze or Brass	
	No.	Per Doz.	No.	Per Doz.
Dull Brass Finish...	9150C	.....	9155C	.....
Dead Black Finish..	9150H	.....		.....

Champion Wrought Mail Box Plates



Entire plate is built of wrought steel or brass, very heavy and waterproof. Opening is according to Government specification. Opening 1½x7½ inches; outside plate, 3x10 inches.
Packed with inside plates and ¾x6 oval head screws.
Packed ½ dozen to a box. Weight per box, 6 pounds.

	Polished Steel		Polished Brass	
	No.	Per Doz.	No.	Per Doz.
Dull Brash Finish.....	9170C	\$14.13	9175C	\$33.64
Dead Black Finish.....	9170H	14.13		.....

No. 9255 Champion Cast Bronze Letter Box Plates



Particularly designed for large residences, public buildings, and commercial institutions. Has extra large opening for newspapers and magazines.
Made of heavy cast bronze, polished. Fastens with machine screws from inside. Size of outside plate, 3½x9¾ inches. Size of opening, 2x7½ inches.
Inside plate to cover opening in the door is included.
Packed 1 in box with machine screws; weight, 2½ pounds.
No. 9255L, Standard Light Bronze.....per dozen

**No. 02320 Corbin Letter Drop Plates
With Outside Flap**



For use on exposed residence doors. Outside flap with spring to keep it closed prevents wind from driving rain and snow through letter slot.

Cast brass or bronze letter drop plate, size, $2\frac{1}{2} \times 8\frac{1}{4}$ inches; opening, $1\frac{1}{2} \times 6$ inches. Cast brass or bronze flat back plate, size, $2\frac{1}{4} \times 7\frac{1}{2}$ inches; opening, $1\frac{1}{2} \times 6$ inches.

Packed 6 in a box with wood screws.

No. 02320, Weight per Doz., $15\frac{7}{8}$ Pounds. .per dozen

**No. 07514x07514 $\frac{3}{4}$ Payson Mail Slots
and Hoods
Cast Brass, Bronze or Aluminum**



No. 07514



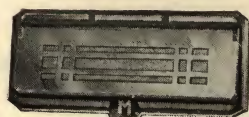
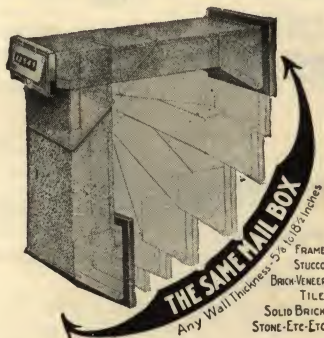
No. 07514 $\frac{3}{4}$

Plate size, $2\frac{1}{2} \times 10\frac{5}{8}$ inches; opening, $1\frac{1}{2} \times 8\frac{7}{8}$ inches.

Available in all standard finishes.

No. 07514x07514 $\frac{3}{4}$per set

Built-In Mail Boxes



No. CA-7



No. CA-17

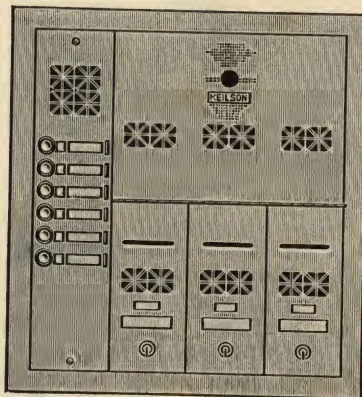
Made from galvanized iron in horizontal and vertical models. With attractive, cast metal face plate and hardwood inside door.

Chute is adjustable to walls from $5\frac{1}{8}$ to $18\frac{1}{2}$ inches thick.

Size, 4x9 inches.

Face Plate	Horizontal Model	Each	Vertical Model	Each
Aluminum, Wrought Iron	No.		No.	
Finish.....	CA7A	\$9.00	CA17A	\$5.00
Brass, Polished.....	CA7B	10.50	CA17B	6.00
Extra for Push Button for Bell.....				.50
Extra for Illuminating Fixture and House Number in Face Plate.....				2.40

**Keilson Group G Apartment House
Mail Boxes
Push-Button Boxes—Single Row Mounting**



3-Gang

Made of heavy wrought brass with rust-resistant steel receptacles.

Boxes are made to overlap wall opening 1 inch to take care of irregular cutting of walls.

B unit push-button sound box is supplied mounted right or left of the mail boxes as specified. A 1-inch speaking tube may be mounted to sound box.

Sound box unit has same number of push buttons and card slots as the quantity of individual tenant mail boxes.

One master lock is required. Tenant doors have No. 25389 locks with 3 tumblers and 210 changes. Two keys furnished for each door.

Height of wall cut-out, $15\frac{1}{2}$ inches; depth of wall cut-out, $4\frac{1}{4}$ inches; height over frame, $17\frac{1}{8}$ inches; width door, $3\frac{1}{2}$ inches.

Sprayed brass finish. Other finishes available.

For No. of Families	Width of Wall Cut-Out In.	Width over Frame Inches	Approx. Ship. Wt. Lb.	For No. of Families	Width of Wall Cut-Out In.	Width over Frame Inches	Approx. Ship. Wt. Lb.
3	$14\frac{1}{2}$	16	$16\frac{1}{2}$	8	32	$33\frac{1}{2}$	32
4	18	$19\frac{1}{2}$	19	9	$35\frac{1}{2}$	37	$34\frac{1}{2}$
5	$21\frac{1}{2}$	23	$21\frac{1}{2}$	10	39	$40\frac{1}{2}$	38
6	25	$26\frac{1}{2}$	26	11	$42\frac{1}{2}$	44	42
7	$28\frac{1}{2}$	30	28	..	....	....	....

No. 2112 Safe Cast Brass Door Knockers



Cast brass, polished.

Size: $4\frac{1}{2}$ inches wide by 9 inches high.

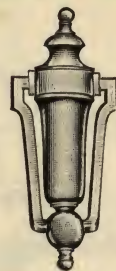
Packed with $2\frac{1}{2}$ -inch through machine screws and washers.

Packed 1 in a box.

Weight per box, $1\frac{1}{2}$ pounds.

No. 2112-3, Polished Brass Finish.....per dozen \$88.80

No. 2100 Safe Cast Brass Door Knockers

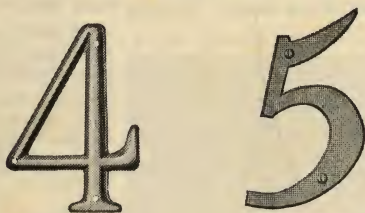


Cast brass, polished. Size: $3\frac{3}{8}$ inches wide by $8\frac{1}{2}$ inches high. Packed with $2\frac{1}{2}$ -inch through machine screws and washers. Packed in a box.

Weight per box, $1\frac{1}{4}$ pounds.

No. 2100-3, Polished Brass Finish.....per dozen \$74.40

Safe Cast Brass House Numbers



No. T2851BR

Nos. 2852B and 2855B

No. T2851BR can also be furnished in five dozen quantities (half dozen each 1-0) in attractive display boxes.

	Burnished	Polished
No.	*T2851BR	†2852B †2855B
Each.....	\$2.50	5.90 6.20
Size.....inches	2 3/4	3 4
Package Quantity.....	12	6 6
Weight, per Dozen..pounds	1	1 1/16

*Packed with escutcheon pins.

†Complete with wood screws.

National Interlocking Thresholds Standard Type



No. 142A

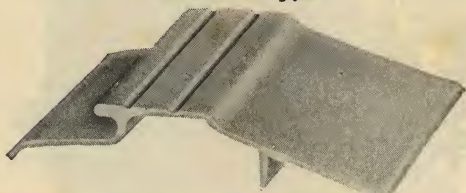
No. 142D

Size doors recommended, 1 3/8 and 1 3/4-inch thick.

	*Aluminum	†Bronze
No.	T142A	T142D
Each.....		
Width.....inches	1 1/2	1 1/2
Height.....inches	1 1/4	1 1/4
Approx. Wt. per 100 Feet..pounds	21	57

*No. 63ST5 alloy aluminum. †Architectural bronze.

National Interlocking Thresholds Standard Type



Size doors recommended, 1 3/4 and 2 1/4-inch thick.

	*Aluminum	†Bronze
No.	T148A	T146D
Each.....		
Width.....inches	4 1/2	4 1/2
Height.....inches	1 3/8	3 3/4
Approx. Wt. per 100 Feet..pounds	73	195

*No. 63ST5 alloy aluminum. †Architectural bronze.

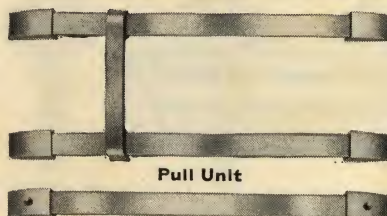
Metal Thresholds



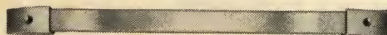
	4	5	6	6 1/2
Width Base.....inches				
Aluminum.....per foot	\$1.75	\$2.00	\$2.50	\$5.00
Brass.....per foot	4.00	5.00	7.00	10.00
Width Top.....inches	2 1/8	2 3/8	3	5 1/2
Height.....inches	1 1/2	1 1/2	1 1/2	1 1/2

Furnished in any length from stock. Aluminum or brass.

No. 06015 Payson Pull and Push Bar Sets Brass, Bronze or Aluminum



Pull Unit



Push Bars

Size bar, 3/8x1 1/4 inches; clearance, 1/2 inch; stile plates, 1 1/2x2 3/4 inches; spacing 7 inches center to center; overall projection, 1 3/4 inches.

Furnished 37 inches center to center unless otherwise specified.

Set consists of one pull unit and two push bars. Bars

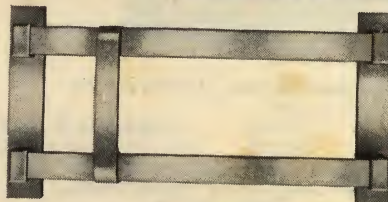
may be ordered separately if desired.

Available in all standard finishes.

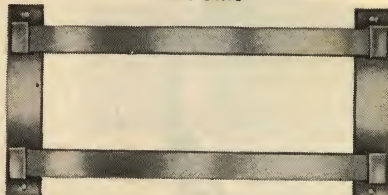
Packed 1 complete set in a box with through bolts for pull unit and wood screws for push bars.

No. 06015.....per set

No. 06054 Payson Pull and Push Bar Sets Alumilited Aluminum



Pull Unit



Push Unit

Size of stile plates, 11x2 inches. Horizontal bars, 3/8x1 1/2 inch. Spacing 7 inches center to center. Clearance of bars, 1 1/16 inch. Grab, 1 3/8 inches. Overall projection of grab, 1 7/8 inches.

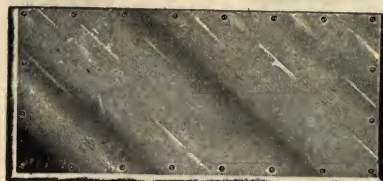
Furnished in sets.

Units may be ordered separately with attachment as requested.

Packed 1 set in a box complete with through bolts for back to back attachment.

No. 06054.....per set

Payson Kick Plates



Made from wrought brass, bronze, aluminum, steel, or stainless steel.

With square edges, drilled and countersunk.

Thickness: B&S gage, Nos. 12, 14, or 16.

Standard widths: 8, 10, 12, 14, 16, 18, and 20 inches; other widths furnished to order.

Furnished in all standard finishes, except common steel plates which are made in genuine or imitation Bower-Barff finish only.

Packed with oval head screws unless otherwise specified.

Prices upon application.

Payson Push Plates

Wrought Brass, Bronze or Aluminum

Made of 16-gage, beveled brass, bronze or aluminum.

Can be cut, if desired, for cylinder or bit key. Wrought plates can be furnished to any size desired.

Available in all standard finishes.

No.....	01482	01484 $\frac{1}{2}$	01488
Each.....			
Size.....inches	3x12	3 $\frac{1}{2}$ x14	4x16

Payson Pull Plates

Made of No. 16 B&S gage material, with $\frac{1}{16}$ -inch bevel.

Pull projects, $2\frac{1}{8}$ inches; clearance, $1\frac{1}{2}$ inches and spaced, center to center, $5\frac{1}{2}$ inches.

Furnished in wrought brass or bronze in all finishes, white bronze, aluminum or aluminite in polished or dull finish, polished or dull stainless steel, and genuine Bower Barff.

Can be furnished cut for cylinder or bit key; specify location.

Packed with screws and bolts.

No.....	01582	01584 $\frac{1}{2}$	01588
Plate Size.....inches	12x3	14x3 $\frac{1}{2}$	16x4

Prices upon request.

No. 01382 Payson Door Pulls

Grip, $\frac{3}{8}$ x $1\frac{1}{4}$ -inch rod. Length overall, $14\frac{1}{4}$ inches; projection, $1\frac{5}{8}$ inches; clearance, $1\frac{5}{16}$ inches; and spacing, center to center, 8 inches.

Has 1-inch round posts.

Furnished in brass or bronze, in all finishes, white bronze, aluminum or aluminite in polished or dull finish; also in polished or dull stainless steel and genuine Bower Barff.

Packed with $3x\frac{1}{4}$ -inch through bolts, lock washers and nuts.

Prices upon request.

No. 01363x01753 Payson Door Pulls

Door pull has overall length of 10 inches; projection, $2\frac{1}{8}$ inches; clearance, $1\frac{1}{2}$ inches; center to center of grip, $7\frac{7}{8}$ inches.

Base plates, $2\frac{1}{8}$ x $2\frac{1}{8}$ inches.

Furnished in cast brass or bronze in all finishes, white bronze, aluminum or aluminite, polished or dull finish.

Screws and bolts furnished.

Bronze, Polished or Dull Finish.....each	\$9.25
Brass, Polished or Dull Finish.....each	9.25
Brass, Chrome Plated Finish.....each	10.50
Aluminum, Polished or Dull Finish.....each	7.50
Aluminite, Polished or Dull Finish.....each	7.50

No. 01350 Payson Door Pulls

Brass, Bronze or Aluminum

Overall length, 6 inches; projection, $2\frac{1}{16}$ inches.

Center to center, $5\frac{1}{2}$ inches through bolts.

Available in all standard finishes.

No. 01350.....each
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No. 01320 Payson Door Pulls

Brass, Bronze or Aluminum

Overall length, $7\frac{1}{2}$ inches; projection, $2\frac{1}{4}$ inches.

Center to center, $5\frac{1}{2}$ inches wood screws.

Available in all standard finishes.

No. 01320.....each
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No. 02210 $\frac{1}{4}$ Corbin Door Pulls

Cast brass or bronze, polished.

Size overall, $7\frac{1}{2}$ x2 inches. Projection, $2\frac{1}{4}$ inches. Clearance, $1\frac{1}{16}$ inches.

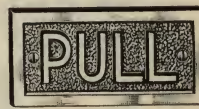
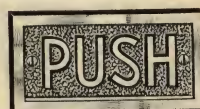
Center to center of machine screw, $5\frac{1}{16}$ inches.

Packed 3 in a box with screws.

Weight per dozen, 17 pounds.

No. EA02210 $\frac{1}{4}$, Dull Brass	.....
.....per dozen	.....

Payson Stile Name Plates



Stippled background, raised letters.

Available in brass, bronze or chrome, polished or dull; and in aluminited aluminum.

Push Plates

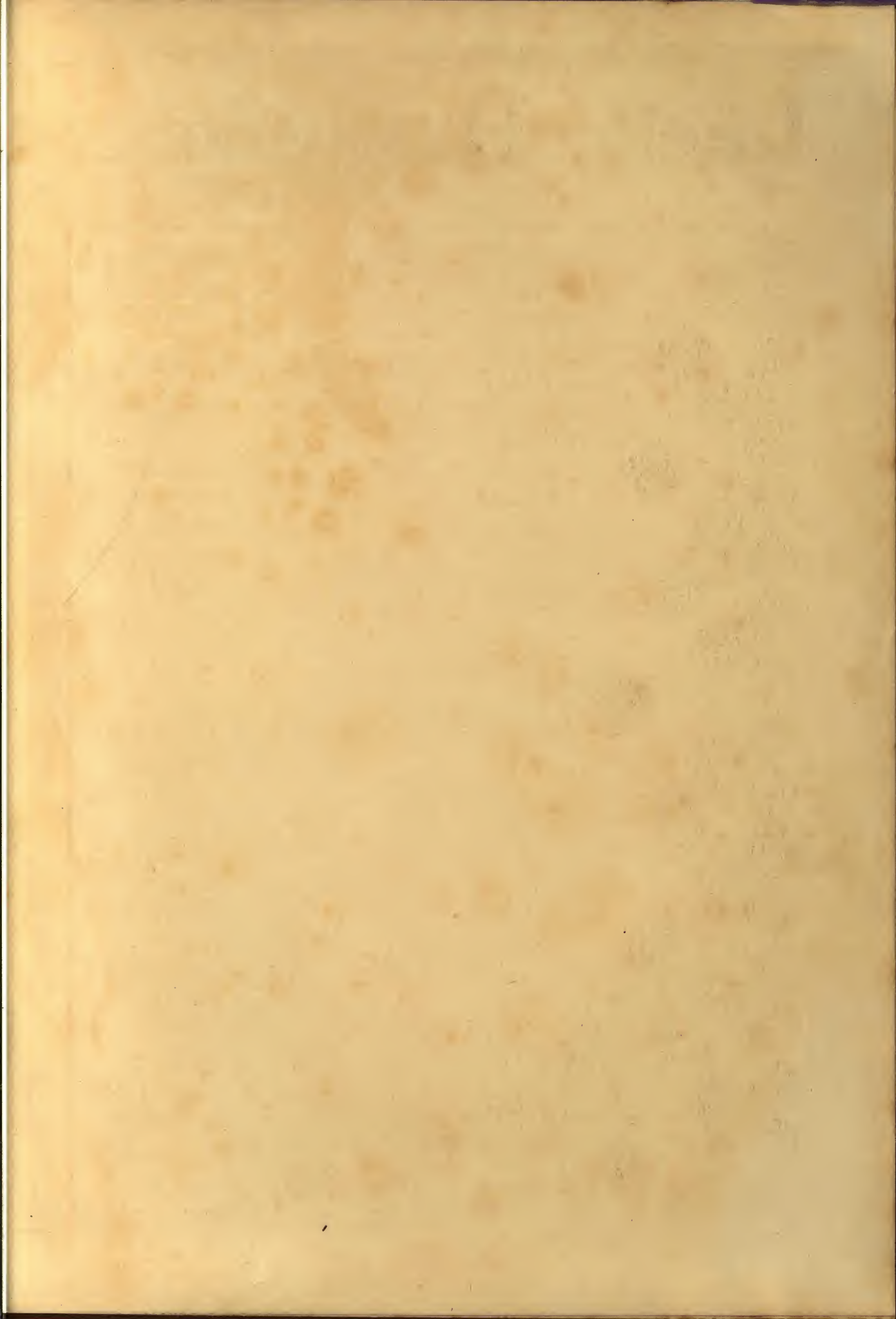
No. 02726, $1\frac{1}{2}$ x3 $\frac{1}{2}$ Inches.....each	.....
No. 02727, 2x4 Inches.....each	.....

Pull Plates

No. 02736, $1\frac{1}{2}$ x3 $\frac{1}{2}$ Inches.....each	.....
No. 02737, 2x4 Inches.....each	.....

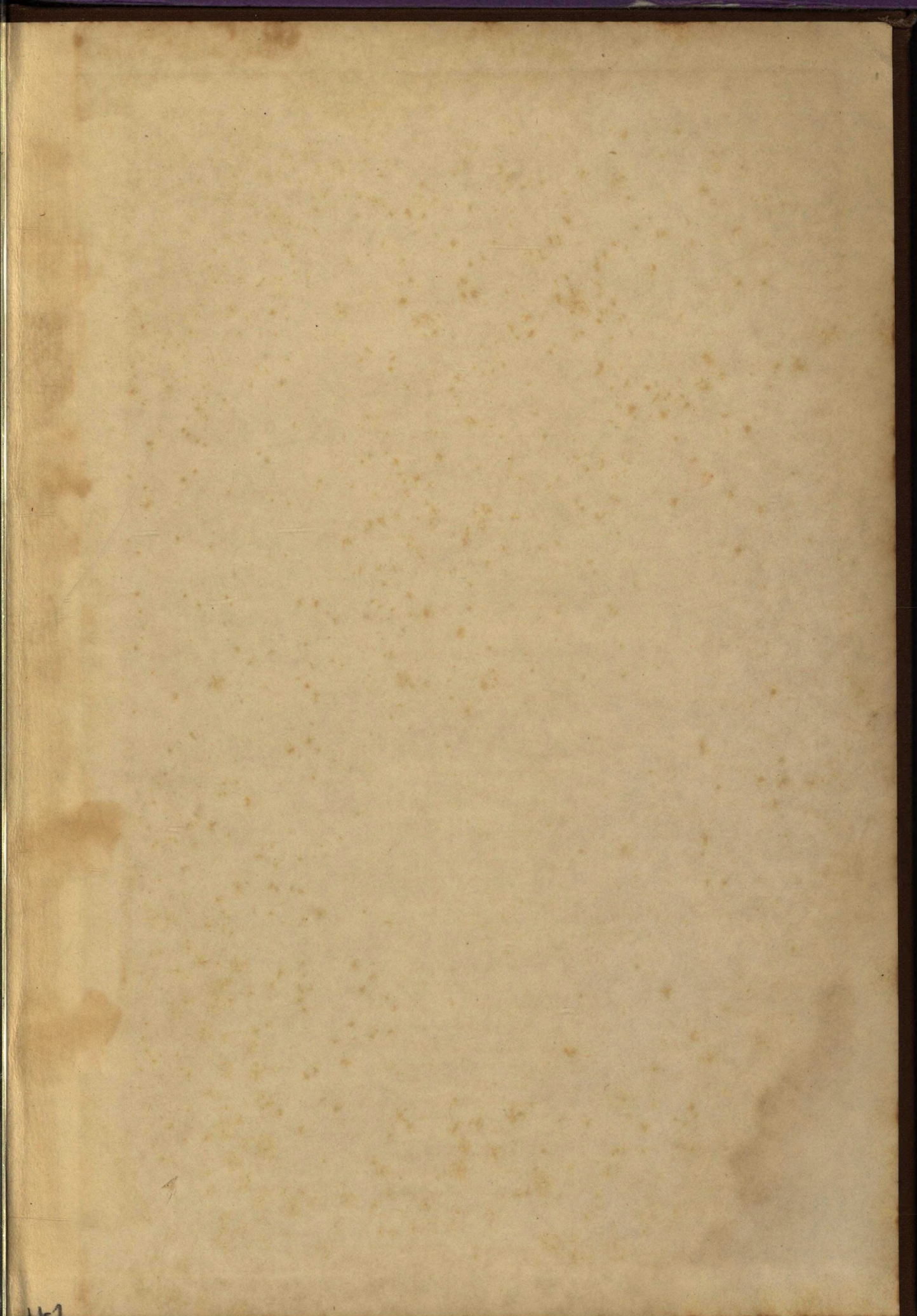
Decimal Equivalents

$\frac{1}{64}$		.015625	$\frac{33}{64}$		.515625
$\frac{3}{64}$	$\frac{1}{32}$	.03125	$\frac{35}{64}$	$\frac{17}{32}$	.53125
		.046875			.546875
$\frac{5}{64}$	$\frac{1}{16}$	.0625	$\frac{37}{64}$	$\frac{9}{16}$	.5625
		.078125	$\frac{39}{64}$	$\frac{19}{32}$	.578125
$\frac{7}{64}$	$\frac{3}{32}$	.09375			.59375
		.109375	$\frac{41}{64}$	$\frac{5}{8}$	.609375
$\frac{9}{64}$	$\frac{1}{8}$	.125			.625
		.140625	$\frac{43}{64}$	$\frac{21}{32}$	.640625
$\frac{11}{64}$	$\frac{5}{32}$	.15625			.65625
		.171875	$\frac{45}{64}$	$\frac{11}{16}$	.671875
$\frac{13}{64}$	$\frac{3}{16}$	.1875			.6875
		.203125	$\frac{47}{64}$		.703125
$\frac{15}{64}$	$\frac{7}{32}$	.21875			.71875
		.234375	$\frac{49}{64}$	$\frac{23}{32}$	.734375
$\frac{17}{64}$	$\frac{1}{4}$	.25			.75
		.265625	$\frac{51}{64}$	$\frac{3}{4}$	.765625
$\frac{19}{64}$	$\frac{9}{32}$	.28125			.78125
		.296875	$\frac{53}{64}$	$\frac{25}{32}$	.796875
$\frac{21}{64}$	$\frac{5}{16}$	.3125			.8125
		.328125	$\frac{55}{64}$	$\frac{13}{16}$	.828125
$\frac{23}{64}$	$\frac{11}{32}$	.34375			.84375
		.359375	$\frac{57}{64}$	$\frac{27}{32}$	.859375
$\frac{25}{64}$	$\frac{3}{8}$	.375			.875
		.390625	$\frac{59}{64}$	$\frac{7}{8}$	.890625
$\frac{27}{64}$	$\frac{13}{32}$	.40625			.90625
		.421875	$\frac{61}{64}$	$\frac{29}{32}$	.921875
$\frac{29}{64}$	$\frac{7}{16}$	.4375			.9375
		.453125	$\frac{63}{64}$	$\frac{15}{16}$	.953125
$\frac{31}{64}$	$\frac{15}{32}$	.46875			.96875
		.484375	$\frac{1}{2}$		.984375
		.5			1.



Decimal Equivalents

1/2	0.500000	1/4	0.250000	3/4	0.750000
1/3	0.333333	2/3	0.666667	1/5	0.200000
2/5	0.400000	3/5	0.600000	4/5	0.800000
1/6	0.166667	5/6	0.833333	1/10	0.100000
1/8	0.125000	3/8	0.375000	5/8	0.625000
7/8	0.875000	1/12	0.083333	5/12	0.416667
11/12	0.916667	1/15	0.066667	2/15	0.133333
1/16	0.062500	3/16	0.187500	5/16	0.312500
7/16	0.437500	9/16	0.562500	11/16	0.687500
13/16	0.812500	15/16	0.937500	1/20	0.050000
1/25	0.040000	2/25	0.080000	3/25	0.120000
4/25	0.160000	6/25	0.240000	8/25	0.320000
10/25	0.400000	12/25	0.480000	14/25	0.560000
16/25	0.640000	18/25	0.720000	22/25	0.880000
24/25	0.960000	1/30	0.033333	2/30	0.066667
3/30	0.100000	4/30	0.133333	5/30	0.166667
7/30	0.233333	8/30	0.266667	9/30	0.300000
11/30	0.366667	13/30	0.433333	17/30	0.566667
19/30	0.633333	23/30	0.766667	29/30	0.966667
1/40	0.025000	3/40	0.075000	7/40	0.175000
9/40	0.225000	11/40	0.275000	13/40	0.325000
17/40	0.425000	19/40	0.475000	21/40	0.525000
25/40	0.625000	27/40	0.675000	31/40	0.775000
33/40	0.825000	37/40	0.925000	1/50	0.020000
2/50	0.040000	3/50	0.060000	4/50	0.080000
6/50	0.120000	7/50	0.140000	9/50	0.180000
11/50	0.220000	13/50	0.260000	17/50	0.340000
19/50	0.380000	23/50	0.460000	27/50	0.540000
29/50	0.580000	31/50	0.620000	33/50	0.660000
37/50	0.740000	39/50	0.780000	41/50	0.820000
43/50	0.860000	47/50	0.940000	49/50	0.980000



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